

Mass. Department of
Public Works. Annual
report.

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NO. 54

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

FOR THE YEAR ENDING JUNE 30, 1947.



THE COMMONWEALTH OF MASSACHUSETTS

Twenty-seventh Annual Report

of the

Department of Public Works

Year Ending June 30, 1947

To the Honorable Senate and House of Representatives of
the Commonwealth of Massachusetts

In accordance with the provisions of the law, I have the honor, as Commissioner of Public Works, to submit the twenty-seventh annual report of the Department of Public Works for the year ending June 30, 1947.

The organization of the Department as defined in Chapter 16, General Laws, Tercentenary Edition, was as follows;

Commissioner of Public Works:

JOSEPH F. CAIRNES to
March 3, 1947
WILLIAM H. BURACKER beginning
March 3, 1947

Associate Commissioner:

GEORGE G. HYLAND

Associate Commissioner:

RALPH A. PALLADINO

Director, Division of Waterways:

RICHARD K. HALE

PREFACE TO ANNUAL REPORT FOR THE YEAR ENDING JUNE 30, 1947.

During the year work was resumed on highway construction and reconstruction on a substantial scale and many projects long postponed because of lack of materials and manpower during the war will be built during the next few years.

A total of 16.74 miles of State highway was constructed or reconstructed in various sections of the Commonwealth at a cost of \$1,667,131.81. Notable among these projects was a five mile section of Route 202 in Templeton and Winchendon. Another mile of resurfacing on the Worcester Turnpike was completed in Wellesley.

During this period work was also started on the construction or reconstruction of 38.32 miles of highway including an extension of Route 1 (the Newburyport Turnpike) in the towns of Lynnfield and Peabody for 2.1 miles; an extension of Route 128 toward Gloucester in the town of Danvers and city of Beverly for 1.2 miles; a section of Route 114 for 4.4 miles in the town of North Andover; sections totaling 5.0 miles on Route 7 in Great Barrington, Sheffield and Lanesboro; a new highway 3.8 miles long between Chicopee Falls and South Hadley, and a new route 2.3 miles long into the City of Gloucester. The estimated cost of these projects is \$7,805,742.

The number of bridges on which construction was started was approximately the same as for years preceding the war.

The largest bridge project awarded during the year was for a new bridge at Montague City. The completion of the bridge will restore a crossing of the river at this point that has been in continuous existence since 1802 except for the periods when reconstruction was going on.

The number of bridge plans examined under the provisions of Chapter 85, Section 35, of the General Laws has sharply decreased. This is due to the fact that under Chapter 690 of the Acts of 1945 many bridges which would normally be rebuilt by the towns have now been taken over by the State. It is expected that the provisions of Chapter 690 will decrease examination of plans under Chapter 85 in coming years.

To control the Dutch elm disease in Massachusetts the Department, after a conference with representatives of the United States Department of Agriculture and Massachusetts University, instituted a program of spraying by two methods, one by airplane and another by blower equipment.

The plane spraying was used on the Cape and proved very satisfactory, and approximately 86 miles of State Highway trees were sprayed with this method. In the other sections of the State the blower type method of spraying was used.

The eradication of weeds along the highway by means of chemicals was carried out throughout the State. For this work the solution of 2-4-D was used and it was applied by small spraying units of 5 gallon capacity. It was very effective in destroying poison ivy, but in this instance a stronger solution had to be used.

The Department has substantially completed the Origin and Destination Survey of Traffic in Boston and the Metropolitan Boston Area. The data for this survey was collected by house to house interviews and by stopping vehicles on the highway to determine the exact location of the origin and destination of their trips. The study did not confine itself to automobile travel but to all modes of travel.

By authority of Chapter 539, Acts of 1945, the Department was authorized to install highway illumination as deemed necessary at certain locations, such as traffic circles, underpasses, etc. Due to the scarcity of materials, it was impossible to embark on this program until January 1947. By June 30, 1947, two traffic circles in Revere had been completed and negotiations with the power companies were in progress for additional installations in Northboro, Bourne and Cambridge. Although the material situation is still critical, it is fully expected that by the spring of 1948 the effect of this program will be very noticeable.

The Outdoor Advertising Division was separated from the Department of Public Works on September 13, 1946 to become the Outdoor Advertising Authority under the provisions of Chapter 610 of the Acts of 1946.

Seismic studies were made for the Department by Weston College and aerial photograph research for location and highway design was made in conjunction with Harvard University.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, RAYMOND W. COBURN to September 1, 1946
PHILIP H. KITFIELD beginning September 1, 1946

Highway Engineer, (Projects) GEORGE H. DELANO

Highway Engineer, (Construction) FRANCIS T. McAVOY

Highway Engineer, (Maintenance) JAMES E. LAWRENCE

Highway Engineer, (Traffic) EDGAR F. COPELL

Bridge Engineer, RALPH O. SPOFFORD

District Highway Engineers:-

District No. 1, GEORGE A. CURTIS:--The cities and towns of Berkshire County; the towns of Worthington, Middlefield and Huntington in Hampshire County and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, CYRIL B. RAYMOND:--The cities and towns of Franklin County; the cities and towns of Hampshire County, except the towns of Huntington, Middlefield and Worthington; the cities and towns of Hampden County, except the towns of Blandford, Brimfield, Chester, Holland, Monson, Montgomery, Palmer, Russell, Tolland and Wales.

District No. 3, MARTIN J. DALTON:--The cities and towns of Worcester County (including the town of Harvard, for construction only) and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, FRED D. SABIN:--The cities and towns of Middlesex County (including the cities of Malden and Melrose, for construction only); the towns of Wellesley and Brookline in Norfolk County; the town of Harvard, for maintenance only, in Worcester County and the city of Boston in Suffolk County.

District No. 5, CHARLES A. FRITZ:--The cities and towns of Essex County; the cities of Malden and Melrose, for maintenance only, in Middlesex County; the town of Winthrop and the cities of Chelsea, Revere and sections of Boston in Suffolk County.

District No. 6, FRANK A. CHASE:--The cities and towns of Norfolk County, except the town of Cohasset; the cities and towns of Bristol County; sections of the city of Brockton in Plymouth County and of the city of Boston in Suffolk County.

District No. 7, LEWIS R. SELLEW:--The cities and towns of Plymouth County (including sections of the city of Brockton); the town of Cohasset in Norfolk County and the towns of Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer:--EVERETT N. HUTCHINS

Department Secretary, MARY E. McMORROW

Department Business Agent, FRED FAIR

Airport Manager, Logan Airport, VINCENT K. GATES

A DETAILED REPORT OF THE ACTIVITIES
OF THE DEPARTMENT FOR THE YEAR
IS PRESENTED HEREWITH.

Acts and Resolves
Passed by the
General Court of Massachusetts
During the
Session of 1947
Pertaining to the Department of Public Works

ACTS

- Chapter 101 An Act authorizing cities and towns to borrow within the debt limit for the construction of certain types of pavement.
- Chapter 308 An Act extending the time available for improving the facilities for maritime commerce in the port of Fall River
- Chapter 314 An Act authorizing sale and conveyance of a certain parcel of State land in the Town of Provincetown.
- Chapter 336 An Act providing for the abolition by the Department of Public Works, of the use of federal funds, of certain grade crossings in the town of Belmont.
- Chapter 472 An Act changing the title of certain guards at the Public Works building in Boston to Public Works Building Police and establishing their powers and duties.
- Chapter 495 An Act authorizing the Department of Public Works to convey to Everett R. George a certain parcel of land in the city of Newburyport.
- Chapter 502 An Act confirming the right of recovery of damages by persons whose property has been taken or injured in connection with the relocation of the State highway in the towns of Weymouth and Hingham and the construction of a new bridge over the Weymouth Back River.
- Chapter 554 An Act providing for the construction of a bridge of permanent construction in the town of Blackstone to replace the "New City" Bridge, so-called.
- Chapter 589 An Act providing for the improvement by the Department of Public Works of Old Harbor in the town of Sandwich.
- Chapter 603 An Act providing for the repair of a sea wall in the town of Plymouth

- Chapter 621 An Act authorizing the making of harbor improvements by the State Department of Public Works in the town of Marshfield.
- Chapter 640 An Act providing for the repair by the Department of Public Works of the easterly bank of the Annisquam River Canal in Gloucester Harbor northwesterly of Blyman Bridge, so called.
- Chapter 663 An Act relating to the construction of certain additions to the freezer building and its facilities located on the State Fish Pier in Gloucester Harbor
- Chapter 676 An Act authorizing the Department of Public Works to make provisions for the continued development of the General Edward Lawrence Logan Airport at East Boston and to clarify the authority of the department to enter into leases and other contracts.

RESOLVES

- Chapter 31 Resolve in favor of Manuel A. Inacio, also known as Manuel Enos.
- Chapter 37 Resolve providing for an investigation relative to the construction of flood control protection along a portion of the Ware River.
- Chapter 54 Resolve reviving and continuing the special commission established to make an investigation relative to authorizing the State Department of Public Works to improve Fairhaven Harbor

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations and reports, and reports thereon were made as follows:

House No. 110. Annual Report of the Department of Public Works Relative to the Improvement of the Facilities for Maritime Commerce in the Port of Fall River, submitted December 2, 1946, in accordance with the provisions of Chapter 665 of the Acts of 1945.

Senate No. 20. Report of the Joint Board, Consisting of the Department of Public Works and the Department of Public Health, Relative to the Improvement of Clark's Cove in the City of New Bedford, submitted November 29, 1946, in accordance with Chapter 60 of the Resolves of 1946.

Senate No. 560. Report of the Special Commission Appointed to Investigate the Improvement of Fairhaven Harbor, submitted April 15, 1947, in accordance with the provisions of Chapter 59 of the Resolves of 1946.

House No. 358. Report Relative to Six-Year Post-War Highway Construction Program, made December 31, 1946, in accordance with the provisions of Section 6 of Chapter 689 of the Acts of 1945.

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 4, 1946, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:-

1. TO REGULATE THE PURPOSES FOR WHICH CITIES AND TOWNS MAY BORROW WITHIN THE DEBT LIMIT.

Sub-section 5 of section 7 of chapter 44 of the General Laws specifies the types of highway construction for which cities and town may borrow within the debt limit for a period of ten years. This law was passed in 1913 when cement concrete and bituminous pavements of a reasonably permanent nature had not been developed, and the sub-section specified only "stone, block, brick or other permanent pavement of similar lasting character."

The Department has interpreted the words, "or other permanent pavement of similar lasting character" to include cement concrete and modern bituminous pavements, but because there is some question as to the validity of such an interpretation under the present law, it appears advisable to request the amendment of the law to include cement concrete, bituminous concrete and bituminous macadam pavements, which in the opinion of the Department are sufficiently permanent in character to warrant permission for ten-year bond issues.

2. TO REQUIRE THAT WARNING SIGNS AT GRADE CROSSINGS OF RAILROADS BE IN ACCORDANCE WITH A TYPE ESTABLISHED BY THE DEPARTMENT OF PUBLIC WORKS.

The Department recommends a revision in the law relating to railroad crossing advance warning signs, in order to permit it to erect signs which conform with the Federal standards, these signs to be 30-inch circular warning signs, bearing the legend "R.R." in the side quadrants of a diagonal cross, and to be located a distance of 300 feet in advance of the railroad crossing.

3. TO REGULATE THE EMPLOYMENT OF TEMPORARY LABORERS, CHAUFFEURS AND WORKMEN BY THE STATE DEPARTMENT OF PUBLIC WORKS.

The purposes of this act is to exempt from the Civil Service Rules and Regulations men employed in the winter months on snow removal work and those who are employed during emergencies, such as hurricanes and other disasters. Employees could be obtained on an emergency status under civil service, but the limited number of days which they would be allowed to work would handicap the Department to such an extent that the work would be adversely affected. The men on snow removal work are obtained on short notice, usually in the centers of population or along the state highway routes, and work only a few hours, or, at most, a few days and then do not work again until there is another snow storm. As emergency employees, they probably would not be available after the middle of the season, as they would have worked their allotted time. If temporary employees are used, it is difficult to get a sufficient number who will agree to work only when required on account of snow or other emergencies. Even those who do agree are reluctant to report because of the hour at which they are called. Both of these types of employees at the expiration of the period revert to their original status on the civil service list and receive no benefits from civil service. To secure employees during such emergencies from the civil service list requires a great deal of paper work in connection with their employment, which seems to be unnecessary. The passage of the accompanying bill is therefore recommended.

4. TO PERMIT STATE FUNDS TO BE USED IN THE MAINTENANCE OF TOWN WAYS, OTHER THAN STATE HIGHWAYS, CONSTRUCTED IN WHOLE OR IN PART WITH STATE MONEY.

Section 25 of Chapter 81 of the General Laws provides, in effect, that any public way which has been constructed in whole or in part with money furnished by the Commonwealth, and is not a state highway, shall

be maintained by the town and the expense thereof, borne by the town or county, or both, as may be agreed.

This is inconsistent with section 26 of said chapter 81, which provides for the maintenance of public ways in certain towns, in part, at the expense of the State, and with chapter 90, section 34, sub-section 2 (a), which permits the appropriation of state funds to assist in the maintenance of town ways as well as for other purposes.

It is the opinion of the Department that this inconsistency in the law should be corrected, and the recommendation is therefore submitted to amend said section 25 of chapter 81.

5. TO AUTHORIZE THE DEPARTMENT OF PUBLIC WORKS TO MAKE PROVISIONS FOR THE CONTINUED DEVELOPMENT OF THE GENERAL EDWARD LAWRENCE LOGAN AIRPORT AT EAST BOSTON, AND TO CLARIFY THE AUTHORITY OF THE DEPARTMENT TO ENTER INTO LEASES AND OTHER CONTRACTS.

It is recommended that additional funds be provided for the continued development of the General Edward Lawrence Logan Airport at East Boston, and legislation is also recommended to clarify the situation with relation to the authority of the Department to make leases and other contracts.

6. TO AUTHORIZE THE ALCOHOLIC BEVERAGES CONTROL COMMISSION TO ISSUE LICENSES FOR THE SALE OF ALCOHOLIC BEVERAGES TO CONCESSIONAIRES AT ANY STATE-OWNED AIRPORT.

The Department believes that any person, firm or corporation who receives from the officials in charge of any state-owned airport a concession to operate a restaurant, club, package store or tavern, should be licensed to sell alcoholic beverages in accordance with the terms of such concession and while it is in effect. As state-owned airports are outside the jurisdiction of the towns in which they are situated, it is recommended that such licenses be issued by the Alcoholic Beverages Control Commission, as provided in the attached draft of a bill.

DEPARTMENT OF PUBLIC WORKS - HIGHWAYS

STATEMENT OF EXPENDITURES

Fiscal Year Ending June 30, 1947

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
02	Highways Eng. & Adm.			
	Highways Eng. & Adm. Overhead			
31	Personal Services	899,309.54	899,309.54	898,007.43
61	Equip. Rental & Stores Mat.	152,307.62	140,307.62	132,529.58
01	Other Expense	113,497.29	103,497.29	101,467.74
		<u>1,165,114.45</u>	<u>1,143,114.45</u>	<u>1,132,004.75</u>
	Services to Outside Agencies			
33	Personal Services	24,176.18	24,176.18	20,450.18
63	Equip. Rental & Stores Mat.	12,045.00	8,675.00	4,895.81
03	Other Expense	2,467.45	2,467.45	1,961.20
		<u>38,688.63</u>	<u>35,318.63</u>	<u>27,307.19</u>
	Topographical Survey			
04	Other Expense	80,908.73	80,908.73	80,908.73

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
02	Highways Eng. & Adm.(cont'd)			
	Geodetic Survey			
05	Other Expense	.67	.67	.67
	Highway Regulatory Permits & Insp.			
36	Personal Services	28,045.00	28,045.00	27,708.81
66	Equip. Rental & Stores Mat.	4,840.00	4,840.00	4,725.63
06	Other Expense	675.00	490.00	356.79
		<u>33,560.00</u>	<u>33,375.00</u>	<u>32,791.23</u>
	Research and Planning			
37	Personal Services	194,083.41	69,133.41	66,608.74
67	Equip. Rental & Stores Mat.	20,550.00	7,565.00	3,436.57
07	Other Expense	42,999.37	42,999.37	29,256.13
		<u>257,632.78</u>	<u>119,697.78</u>	<u>99,301.44</u>
	Eng. Plans & Surveys for Future Proj.			
38	Personal Services	679,855.81	619,855.81	599,903.02
68	Equip. Rental & Stores Mat.	28,085.00	28,075.00	28,057.85
08	Other Expense	71,243.05	71,243.05	69,868.42
		<u>779,183.86</u>	<u>719,173.86</u>	<u>697,829.29</u>
	Eng. Force Acct. Const. Proj.			
39	Personal Services	800.00	800.00	682.51
69	Equip. Rental & Stores Mat.	555.00	385.00	76.04
09	Other Expense	245.00	175.00	37.17
		<u>1,600.00</u>	<u>1,360.00</u>	<u>795.72</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
02	Highways Eng. & Adm.(cont'd)			
	Eng. Primary Roads Const. F. A.			
40	Personal Services	389,381.59	242,606.59	237,232.26
70	Equip. Rental & Stores Mat.	34,300.00	20,010.00	19,442.97
10	Other Expense	236,314.64	145,519.64	56,889.39
		<u>659,996.23</u>	<u>408,136.23</u>	<u>313,564.62</u>
	Eng. Primary Roads Const. non F. A.			
41	Personal Services	1,724.00	1,724.00	1,358.21
71	Equip. Rental & Stores Mat.	100.00	100.00	90.25
11	Other Expense	204.42	204.42	25.54
		<u>2,028.42</u>	<u>2,028.42</u>	<u>1,474.00</u>
	Eng. Secondary Roads Const. F. A.			
42	Personal Services	79,904.43	15,279.43	14,478.45
72	Equip. Rental & Stores Mat.	6,280.00	4,190.00	2,075.94
12	Other Expense	41,662.47	41,662.47	1,209.36
		<u>127,846.90</u>	<u>61,131.90</u>	<u>17,763.75</u>
	Eng. Grade Crossing Elim. F. A.			
44	Personal Services	68,908.54	13,233.54	12,011.18
74	Equip. Rental & Stores Mat.	5,445.00	3,810.00	512.66
14	Other Expense	24,702.33	24,702.33	2,488.68
		<u>99,055.87</u>	<u>41,745.87</u>	<u>15,012.52</u>
	Eng. State Hwy. Gaps & Extensions			
46	Personal Services	46,935.80	24,855.80	23,984.52
76	Equip. Rental & Stores Mat.	12,295.00	2,610.00	2,274.41
16	Other Expense	35,220.91	35,220.91	2,259.64
		<u>94,451.71</u>	<u>62,686.71</u>	<u>28,518.57</u>
	Eng. Chapter 90 Projects			
47	Personal Services	213,283.36	213,283.36	210,182.55
77	Equip. Rental & Stores Mat.	22,625.00	22,625.00	21,355.95
		<u>235,908.36</u>	<u>235,908.36</u>	<u>231,538.50</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
02	Highways Eng. & Adm.(cont'd)			
	Eng. Chapter 81 Projects			
48	Personal Services	51,434.82	51,434.82	37,765.94
78	Equip. Rental & Stores Mat.	10,060.00	10,060.00	9,335.42
18	Other Expense	3,826.61	2,583.61	522.84
		<u>65,323.43</u>	<u>64,078.43</u>	<u>47,624.20</u>
	Eng. Access Roads F. A.			
49	Personal Services	2,000.63	2,000.63	703.66
79	Equip. Rental & Stores Mat.	100.00	100.00	54.50
19	Other Expense	500.00	500.00	2 27.53
		<u>2,600.63</u>	<u>2,600.63</u>	<u>985.69</u>
	Eng. Strategic Roads F. A.			
50	Personal Services	9,333.96	9,333.96	8,887.05
80	Equip. Rental & Stores Mat.	1,140.00	1,140.00	890.49
20	Other Expense	835.97	835.97	542.99
		<u>11,309.93</u>	<u>11,309.93</u>	<u>10,320.53</u>
	Eng. Advance Eng. F. A.			
52	Personal Services	43,786.63	37,216.63	16,232.77
82	Equip. Rental & Stores Mat.	815.00	815.00	810.33
22	Other Expense	6,752.83	6,752.83	1,703.25
		<u>51,354.46</u>	<u>44,784.46</u>	<u>18,746.35</u>
	Eng. Contract Maint. Projects			
54	Personal Services	10,030.00	8,925.00	7,271.46
84	Equip. Rental & Stores Mat.	3,935.00	3,515.00	590.61
24	Other Expense	9,070.00	9,070.00	1,040.89
		<u>23,035.00</u>	<u>21,510.00</u>	<u>8,902.96</u>
	Eng. Post War Projects			
55	Personal Services	102,859.99	56,174.99	51,207.90
85	Equip. Rental & Stores Mat.	7,010.00	5,295.00	709.89
25	Other Expense	22,021.82		

		<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
02	<u>Allocation Title</u>			
	Highways Eng. & Adm. (cont'd)			
	Eng. Urban Roads Const. F. A.			
56	Personal Services	122,157.19	82,157.19	80,765.95
86	Equip. Rental & Stores Mat.	8,400.00	6,400.00	5,733.15
26	Other Expense	175,950.00	175,950.00	173,916.11
		<u>306,507.19</u>	<u>264,507.19</u>	<u>260,415.21</u>
	Department Secretary			
58	Personal Services	31,590.36	31,590.36	31,354.67
88	Equip. Rental & Stores Mat.	1,800.00	1,800.00	1,596.01
28	Other Expense	1,947.76	1,947.76	1,599.50
		<u>35,338.12</u>	<u>35,338.12</u>	<u>34,550.18</u>
	Department Business Agent			
59	Personal Services	143,627.85	142,627.85	141,814.01
89	Equip. Rental & Stores Mat.	9,500.00	9,500.00	8,281.48
29	Other Expense	32,132.56	28,867.56	26,545.95
		<u>185,260.41</u>	<u>180,995.41</u>	<u>176,641.44</u>
	Vacation, Sick Leave & Other Compensated Absence			
99	Personal Services	453,629.51	423,629.51	421,353.02
		<u>4,910,792.37</u>	<u>4,112,817.37</u>	<u>3,746,738.57</u>
04	<u>Maint. & Oper. of Highways</u>			
	General Maintenance			
31	Personal Services	985,881.86	985,881.86	976,684.59
61	Equip. Rental & Stores Mat.	711,650.49	711,650.49	706,389.18
01	Other Expense	232,847.74	232,847.74	230,104.98
		<u>1,930,380.09</u>	<u>1,930,380.09</u>	<u>1,913,178.75</u>
	Traffic Services			
32	Personal Services	188,040.63	188,040.63	181,282.69
62	Equip. Rental & Stores Mat.	220,650.00	220,650.00	214,630.05
02	Other Expense	45,151.92	45,151.92	44,022.23
		<u>453,842.55</u>	<u>453,842.55</u>	<u>439,934.97</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
04	Maint. & Oper. of Hwys.(cont'd)			
	Bridge Maint. & Operation			
33	Personal Services	228,055.98	228,055.98	225,140.49
63	Equip. Rental & Stores Mat.	58,165.00	58,165.00	56,300.12
03	Other Expense	49,254.89	49,254.89	47,296.21
		<u>335,475.87</u>	<u>335,475.87</u>	<u>328,736.82</u>
	State Hwy. Snow & Ice Control			
34	Personal Services	633,230.70	633,230.70	624,372.50
64	Equip. Rental & Stores Mat.	840,690.00	840,690.00	833,440.72
04	Other Expense	240,762.54	240,762.54	238,048.51
		<u>1,714,683.24</u>	<u>1,714,683.24</u>	<u>1,695,861.73</u>
	Town Road Snow & Ice Control			
35	Personal Services	1,690.00	1,690.00	1,033.78
65	Equip. Rental & Stores Mat.	2,470.00	2,470.00	2,422.59
05	Other Expense	21,840.00	21,840.00	16,324.75
		<u>26,000.00</u>	<u>26,000.00</u>	<u>19,781.12</u>
	Contract Maint. Projects			
66	Equip. Rental & Stores Mat.	25,000.00	25,000.00	24,358.71
06	Other Expense	313,973.52	313,973.52	310,366.23
		<u>338,973.52</u>	<u>338,973.52</u>	<u>334,724.94</u>
	Reimbursable Services Other Depts.			
38	Personal Services	12,700.00	12,700.00	11,836.06
68	Equip. Rental & Stores Mat.	21,925.26	21,925.26	19,129.00
08	Other Expense	10,636.62	10,636.62	9,492.39
		<u>45,261.88</u>	<u>45,261.88</u>	<u>40,457.45</u>

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
04	Maint. & Oper. of Hwys.(cont'd)			
	Building Small Structures			
39	Personal Services	13,030.00	13,030.00	4,162.92
69	Equip. Rental & Stores Mat.	7,155.00	7,155.00	3,971.73
09	Other Expense	14,818.10	14,818.10	13,080.99
		35,003.10	35,003.10	21,215.69
	Moving Public Works Garage			
58	Personal Services	9,000.00	9,000.00	8,491.08
88	Equip. Rental & Stores Mat.	3,000.00	3,000.00	1,045.85
28	Other Expense	29,002.00	29,002.00	22,417.62
		41,002.00	41,002.00	31,954.55
	Increase in Stores Inventory			
89	Equip. Rental & Stores Mat.	62,000.00	62,000.00	50,595.60
	Vacation, Sick Leave etc.			
99	Personal Services	340,054.42	340,054.42	334,120.28
		5,322,676.67	5,322,676.67	5,210,561.90
09	Force Acct., Constr., Reconst. & Betterment Projects			
	General Highway Projects			
31	Personal Services	59,775.00	59,775.00	56,349.31
61	Equip. Rental & Stores Mat.	51,105.00	51,105.00	49,690.75
01	Other Expense	34,526.25	34,526.25	33,332.04
		145,406.25	145,406.25	139,372.10
	Roadside Development Projects			
33	Personal Services	21,960.00	21,960.00	7,400.65
63	Equip. Rental & Stores Mat.	7,465.00	7,465.00	2,076.66
03	Other Expense	1,965.00	1,965.00	603.72
		31,390.00	31,390.00	10,081.03

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
09	Force Acct., Constr., Reconst. and Betterment Projects (cont'd)			
	Traffic Signal Installations			
34	Personal Services	9,865.00	9,865.00	5,102.41
64	Equip. Rental & Stores Mat.	30,660.00	30,660.00	18,126.91
04	Other Expense	769.20	769.20	650.17
		<u>41,294.20</u>	<u>41,294.20</u>	<u>23,879.49</u>
	Traffic Signs Installations			
35	Personal Services	2,470.00	2,470.00	28.56
65	Equip. Rental & Stores Mat.	3,290.00	3,290.00	49.24
		<u>5,760.00</u>	<u>5,760.00</u>	<u>77.80</u>
	Total	<u>223,850.45</u>	<u>223,850.45</u>	<u>173,410.42</u>
10	Federal Aid Highway Projects			
	Primary Roads-Land Damages			
01	Other Expense	543,900.00	543,900.00	301,643.97
	Primary Roads-Proj. Payments			
62	Equip. Rental & Stores Mat.	100.00	100.00	54.12
02	Other Expense	8,247,000.00	7,129,000.00	3,925,726.38
		<u>8,247,100.00</u>	<u>7,129,100.00</u>	<u>3,925,780.50</u>
	Primary Roads-Force Acct. Work			
33	Personal Services	6,515.00	4,555.00	3,063.60
63	Equip. Rental & Stores Mat.	33,380.00	18,635.00	7,913.64
03	Other Expense	17,740.00	17,740.00	250.25
		<u>57,635.00</u>	<u>40,930.00</u>	<u>11,227.49</u>
	Secondary Roads-Land Damages			
04	Other Expense	88,350.00	53,350.00	12,491.16
	Secondary Roads-Proj. Payments			
05	Other Expense	1,127,300.00	921,300.00	144,856.92

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
10	Fed. Aid Hwy. Projects (cont'd)			
	Secondary Roads-Force Acct. Work			
36	Personal Services	535.00	180.00	48.97
66	Equip. Rental & Stores Mat.	15,930.00	5,310.00	199.23
06	Other Expense	800.00	200.00	-
		<u>17,265.00</u>	<u>5,690.00</u>	<u>248.20</u>
	Grade Crossing Elim.-Land Damages			
07	Other Expense	90,490.00	77,990.00	513.47
	Grade Crossing Elimination Project Payments			
08	Other Expense	2,708,800.00	2,238,800.00	211,993.38
	Grade Crossing Elimination Force Account Work			
39	Personal Services	1,180.00	1,090.00	943.76
69	Equip. Rental & Stores Mat.	3,260.00	1,630.00	992.09
09	Other Expense	2,120.00	2,120.00	165.00
		<u>6,560.00</u>	<u>4,840.00</u>	<u>2,100.85</u>
	Access Roads-Land Damages			
10	Other Expense	10,800.00	10,800.00	1.00
	Access Roads-Proj. Payments			
11	Other Expense	13,010.00	13,010.00	3,703.08
	Access Roads-Force Acct. Work			
42	Personal Services	20.00	20.00	8.25
	Urban Roads Const.-Land Damages			
16	Other Expense	1,889,500.00	389,500.00	167,118.13

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
10	Fed. Aid Hwy. Proj. (cont'd)			
	Urban Roads Const. Proj. Payments			
17	Other Expense	5,915,214.44	3,798,500.00.	1,052,351.63
	Urban Roads Const.-Force Acct. Work			
48	Personal Services	20.00	20.00	11.67
78	Equip. Rental & Stores Mat.	300.00	300.00	199.94
18	Other Expense	2,700.00	2,700.00	-
		3,020.00	3,020.00	211.61
	Secondary Roads-Land Dam. 100% Reimb.			
19	Other Expense	3,100.00	3,100.00	522.03
	Strategic Roads-Land Damages			
22	Other Expense	7,430.00	7,430.00	2,362.76
	Strategic Roads-Proj. Payments			
23	Other Expense	94,430.00	94,430.00	87,557.58
	Strategic Roads-Force Acct. Work			
54	Personal Services	1,000.00	1,000.00	838.56
84	Equip. Rental & Stores Mat.	6,310.00	6,310.00	2,919.39
24	Other Expense	3,200.00	3,200.00	9.50
		10,510.00	10,510.00	3,767.45
	Primary Roads-Land Dam. 100% Reimb.			
25	Other Expense	2,660.00	2,660.00	317.00
	Primary Roads-Proj. Payments 100% Reimb.			
26	Other Expense	143,510.00	143,510.00	115,726.46
	Total	20,980,604.44	15,542,390.00	6,044,502.92

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
11	Primary Roads Const. non F.A.			
	Land Damages			
01	Other Expense	75.00	75.00	75.00
	Project Payments			
02	Other Expense	17,588.57	17,588.57	17,588.57
	Total	17,663.57	17,663.57	17,663.57
12	Const. State Hwy. Caps & Ext.			
	Land Damages			
01	Other Expense	50,549.00	50,549.00	47,921.13
	Project Payments			
02	Other Expense	2,623,617.08	2,623,617.08	2,542,800.03
	Force Account Work			
33	Personal Services	94,000.00	94,000.00	93,873.84
63	Equip. Rental & Stores Mat.	61,000.00	61,000.00	60,403.39
03	Other Expense	145,000.00	145,000.00	144,304.57
		300,000.00	300,000.00	298,581.80
	Total	2,974,166.08	2,974,166.08	2,889,302.96
17	Const. & Repair Town & Co. Ways(Ch.90)			
	Project Payments			
62	Equipment Rental & Stores Mat.	100.00	100.00	47.90
02	Other Expense	5,770,841.03	3,726,028.50	2,251,538.08
		5,770,941.03	3,726,128.50	2,251,585.98
	Force Account Work			
33	Personal Services	400.00	400.00	343.42
63	Equip. Rental & Stores Mat.	600.00	600.00	578.37
		1,000.00	1,000.00	921.79
	Total	5,771,941.03	3,727,128.50	2,252,507.77
18	Repair & Imp. of Pub. Ways(Ch.31)			
	Project Payments			
02	Other Expense	3,848,307.75	3,848,307.75	3,830,157.75

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
30	Special Projects			
	State Highways-Hurricane & Flood Land Damages			
07	Other Expense	200.00	-	-
	State Highways-Hurricane & Flood Project Payments			
08	Other Expense	1,582.82	-	-
	Town & County Ways-Hurricane & Flood Project Payments			
14	Other Expense	501.94	-	-
	Public Works Program, Grade Crossing Elim.-Land Damages			
16	Other Expense	276.00	-	-
	Public Works Program, Grade Crossing Elim.-Proj. Payments			
17	Other Expense	2,681.26	-	-
	Total	5,242.02	-	-
	Oper. & Maint. of Bldgs.(2922)			
01 00	Public Works Bldg.-Salaries	123,970.00	123,970.00	123,931.81
02 00	" " " Guards Serv	42,342.21	42,342.21	41,757.05
03 00	" " " Expenses	62,198.87	62,198.87	62,198.87
21 00	" " "New Lights (2900)	15,000.00	15,000.00	3,919.81
91 01	" " " Roof Repairs	15,000.00	9,200.00	-
	Total	258,511.08	252,711.08	231,807.54

	<u>Allocation Title</u>	<u>Amount Appropriated</u>	<u>Amount Allotted</u>	<u>Expenditures</u>
56	Laboratory Equipment			
01	Other Expense	20,743.50	20,743.00	15,409.64
31	Traffic Study-Metropolitan Boston			
31	Personal Services	1,686.30	1,686.30	249.15
61	Equip. Rental & Stores Mat.	863.50	863.50	.78
01	Other Expense	1,365.61	1,365.61	-
	Total	3,915.41	3,915.41	249.93
33	Reimb. Cities & Towns-Oper. Certain Bridges			
01	Other Expense	55,000.00	55,000.00	42,776.01
34	Reimb. City Boston-Tunnel Plans			
01	Other Expense	250,000.00	40,000.00	33,690.77
	Total Hwy. Oper. Expenditures	44,643,414.37	36,141,369.88	24,488,779.75

<u>Allocation Title</u>		<u>Amount</u> <u>Appropriated</u>	<u>Amount</u> <u>Allotted</u>	<u>Expenditures</u>
<u>Operation and Maintenance of Airports</u>				
<u>1947 Account-2230</u>				
01	Logan Airport			
01	Salaries	183,064.48	183,064.48	183,064.48
21	Expenses	<u>61,755.52</u>	<u>61,755.52</u>	<u>61,755.52</u>
	Total	<u>244,820.00</u>	<u>244,820.00</u>	<u>244,820.00</u>
<u># 1946 Liability-2202</u>				
15	Logan Airport			
01	Personal Services	804.43	804.43	804.43
21	Expenses	<u>8,550.04</u>	<u>8,550.04</u>	<u>8,550.04</u>
	Total	<u>9,354.47</u>	<u>9,354.47</u>	<u>9,354.47</u>
Total General Revenue Expenditures		<u>254,174.47</u>	<u>254,174.47</u>	<u>254,174.47</u>
<u>Special Projects-2220</u>				
30	Bedford Airport Acquisition			
	Land Damages			
01	Other Expense	<u>10,102.99</u>	<u>-</u>	<u>-</u>

Included with 2230-01 by Comptroller

DETAIL AND SUMMARY OF 1947 AMOUNT APPROPRIATED

<u>Account No.</u>	<u>Account Name</u>	<u>1946 Appropriation Balance</u>	<u>1947 Appropriation</u>	<u>1946 Lda. to be Paid in 1948</u>	<u>1946 Liabilities Paid in 1947</u>	<u>1946(2900-50) Lda. Paid in 1947 Tr. to Oper. Accts.</u>	<u>Total</u>
2900-02	Hwys. Eng'g. & Adm.	-	4,659,640.00	49,373.23	161,144.12	40,635.02	4,910,792.37
2900-04	Maint. & Op. of Hwys.	-	5,152,980.00	31,653.60	118,043.07	20,000.00	5,322,676.67
2900-09	Force Acct. Const., Recon. & Betterment Proj.	-	216,845.00	-	5.45	7,000.00	223,850.45
2900-10	Fed. Aid Hwy. Proj.	10,980,604.44	10,000,000.00	-	-	-	20,980,604.44
2900-11	Primary Roads Const. Non F. A.	-	-	-	17,663.57	-	17,663.57
2900-12	Const. & Improvement of Thru Routes	2,974,166.08	-	-	-	-	2,974,166.08
2900-17	Const. & Repair Town & County Ways (Chap. 90)	2,907,941.03	2,864,000.00	-	-	-	5,771,941.03
2900-18	Repair & Improvement of Public Ways (Chap. 81)	-	2,076,000.00	-	1,772,307.75	-	3,848,307.75
8222-30	State Hwy. Hurricane & Flood						
07	Land Damages	200.00	-	-	-	-	200.00
08	Project Payments	1,582.82	-	-	-	-	1,582.82
14	Town & County Ways Hurricane & Flood Project Payments	501.94	-	-	-	-	501.94

Account No.	Account Name	1946 Appropriation Balance	1947 Appropriation	1946 Lia. to be Paid in 1948	1946 Liabilities Paid in 1947	1946(2900-50) Lia. Paid in 1947 Tr. to Oper. Accts.	Total
8305-30	Public Works Program, Grade Crossings						
16	Land Damages	276.00	-	-	-	-	276.00
17	Project Payments	2,681.26	-	-	-	-	2,681.26
2922-01	Public Works Building- Salaries	-	123,970.00	-	-	-	123,970.00
2922-02	Public Works Building- Guards	-	41,939.55	-	402.66	-	42,342.21
2922-03	Public Works Building- Expenses	-	53,000.00	-	9,198.87	-	62,198.87
2922-21	Public Works Building- New Lights	-	15,000.00	-	-	-	15,000.00
2900-91	Public Works Building- Roof Repairs	-	15,000.00	-	-	-	15,000.00
2900-31	Traffic Study- Metropolitan Boston	3,915.41	-	-	-	-	3,915.41
2900-33	Reim. Cities & Towns "Operation of Certain Bridges"	-	55,000.00	-	-	-	55,000.00
2900-34	Reim. City of Boston Tunnel Plans	-	250,000.00	-	-	-	250,000.00
2900-56	Laboratory Equipment	20,743.50	-	-	-	-	20,743.50
Total Highway Operating Appropriations		16,892,612.48	25,523,374.55	81,026.83	2,078,765.49	67,635.02	44,643,414.37

Note: 2900-10 Federal Aid Highway Projects

Inasmuch as this is a "continuing appropriation", the Comptroller has transferred all outstanding encumbrances to the 1948 Accounts. The total amount so transferred July 1, 1947 is as follows:

2900-10-01	Primary Roads Land Damages	Other Expense	\$240,548.98
02	" " Project Payments	"	1,457,369.23
03	" " Force Account Work	"	17,695.37
04	Secondary Roads Land Damages	"	54,586.00
05	" " Project Payments	"	24,728.25
07	Grade Crossing Elimination Land Damages	"	25,305.08
08	" " Project Payments	"	294,269.47
09	" " Force Account Work	"	1,840.00
10	Access Roads Land Damages	"	10,793.79
16	Urban Roads Construction Land Damages	"	222,577.00
17	" " Project Payments	"	1,446,736.61
18	" " Force Account Work	"	2,090.00
19	Secondary Roads Land Damages 100% Reimb.	"	2,581.00
22	Strategic Roads Land Damages	"	4,342.00
24	" " Force Account Work	"	3,100.00
25	Primary Roads Land Damages 100% Reimb.	"	2,340.00
			<hr/>
			\$3,810,902.78

Note: 2900-17 Construction and Repair Town and County Ways (Chapter 90)

Inasmuch as this is a "continuing appropriation", the encumbrances have been transferred by the Comptroller to the 1948 Accounts. Encumbrances are not made until after the contracts are executed; therefore, although the account shows a large unencumbered balance, commitments have been made by the Board covering, approximately, the entire balance available.

Note: 2900-31 Traffic Study-Metropolitan Boston.

This is a "special appropriation" which does not expire until July 25, 1947.

Note: 2900-34 Tunnel Plans-Reimbursement City of Boston-Chapter 560 Acts of 1946.

This is a "special appropriation" which does not expire until June 30, 1948.

Note: 2900-56 Laboratory Equipment

This is a "special appropriation" which does not expire until July 25, 1947. The encumbrances \$1,859.93 have been transferred by the Comptroller to the 1948 Accounts.

Note: 2900-91 Maintenance of Public Works Building-Roofing Repairs

This "special appropriation" will expire April 15, 1949. The encumbrances \$8,533.12 have been transferred by the Comptroller to the 1948 Accounts.

Note: 2922-21 Maintenance of Public Works Building-New Lights

This "special appropriation" will expire June 30, 1948. The encumbrances \$11,027.80 have been transferred by the Comptroller to the 1948 Accounts.

Note: 8222-30-07 State Highway Hurricane and Flood-Land Damage-D.P.O.35555 \$200.00

This amount has been awarded to the Norman M. Broga Estate, Chester, Mass. The heirs cannot be located at the present time.

Note: 8222-30-08 State Highway Hurricane and Flood-Project Payments-unexpended balance \$1,582.82.

Note: 8222-30-14 Town and County Ways-Hurricane and Flood-Project Payments-unexpended balance \$501.94.

These balances should be retained on account of suit entered against the Commonwealth by L. M. Harsum on Contract 878. Authorization has previously been granted by the Legislature to use any unexpended balance of the above appropriations to cover any deficit which may occur on either of these accounts.

Note: 8305-30-16 Public Works Program-Grade Crossing Elimination Projects-Land Damages \$276.00

Unexpended balance may revert as there are no liabilities.

Note: 8305-30-17 Public Works Program-Grade Crossing Elimination Payments--unexpended balance \$2,681.26.

Encumbrance

D35558, Framingham, Agreement No. 79 with New York Central R. R., Lessee, \$1,473.96. This is a bond issue, balance does not revert.

Note: 2220-30-01 Bedford Airport, Acquisition Expenses, Land Damages, unexpended balance \$10,102.99. Unexpended balance of D.P.O. 35627, \$10,102.99. The following land damages are pending:

<u>Name</u>	<u>Parcel</u>	<u>Remarks</u>
Frank J. McGovern, et al	8-14	Suit pending
Geo. L. Turnbull	41	\$50 awarded-title not clear
Carl F. N. Anderson	3	\$112 awarded-title not clear

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the Commonwealth of Massachusetts in the construction of highways under the Federal Highway Act approved November 9, 1921 may be found in the annual reports of the Department of Public works for the years 1920 to date. A detailed statement of the Federal Aid Allotments and Projects appears in the Department Report for the Fiscal Year 1933.

Additions and alterations for the fiscal years 1934 to 1939 inclusive and a summary of Federal Aid Allotments appear in the Department Report for the fiscal year 1938. Additions and alterations for the following years appear in each annual report of the Department.

Following is a statement of Federal Aid Funds for Projects financed by Federal Aid for the period July 1, 1946 to June 30, 1947.

STATEMENT OF FEDERAL AID FUNDS

July 1, 1946 to June 30, 1947

P.A. NO.	TOWN - CITY	MILEAGE	ALLOTMENT	AMT. RECEIVED	BALANCE DUE
U-331 (2)	BEVERLY - DANVERS	1.164	451,524.65	232,235.68	219,288.97
FI 241 (4)	BOSTON (East)	0.181	49,218.00	34,452.60	14,765.40
FI 152 (5)	DARTMOUTH - WESTPORT	3.357	240,791.16	33,070.70	207,720.46
FAP 177 (5)	DENNIS	0.192	32,474.50	7,844.39	25,330.11
FAGM 82(1) Off	FRAMINGHAM	0.326	255,807.46		255,807.46
U-331 (3)	GLOUCESTER	2.434	765,539.66		765,539.66
U-312 (5)	LYNN - SALEM	2.381	250,731.36	50,742.94	199,988.42
U-FAI 17 (4)	LYNNFIELD	0.433	136,120.50	43,986.15	92,134.35
F-311 (4)	NORTH ANDOVER	4.382	222,536.66	74,814.79	147,721.87
F-193 (3)	NORTHAMPTON	0.416	42,078.50	8,415.70	33,662.80
SN-FAI 38(2) "A"	PEABODY Contract "A"	0.555	171,553.32	244,413.42	266,959.75
SN-FAI 38(2) "B"	PEABODY Contract "B"	1.155	339,819.85		
FAGM 172 (4)	STERLING & WEST BOYLSTON	0.513	194,095.61	87,427.17	106,668.44
SN-FAP 334 (1)	STOCKBRIDGE	0.958	70,565.75	31,926.82	38,638.93
D-77 (1)	WEBSTER	1.763	72,672.66	19,190.76	53,481.90
F-211 (14)	WELLESLEY	0.937	31,567.00	28,410.30	3,156.70
	TOTALS	21.167	3,327,096.64	896,231.42	2,430,865.22

GENERAL STATEMENT

State Highways

During the year ending June 30, 1947, the Department laid out 9.36 miles of State highway in 23 cities and towns. State highway locations were altered in 22 cities and towns without change of mileage. Discontinuances of 6.13 miles of State highway were made in 4 towns. Five grade crossing elimination decrees were signed. One street railway decree was signed. Town layouts were prepared in 10 cities and towns and county layouts were prepared in 17 cities and towns. The total length of State highways at the end of the year was 1,950.98 miles.

SURVEYS, PLANS AND ESTIMATES

During the year ending June 30, 1947, preliminary surveys, plans and estimates and final surveys were made as follows:

For State Highway Construction

Preliminary surveys in 1 city and 8 towns,	9.24 miles
Preliminary plans in 1 city and 6 towns,	11.53 miles
Preliminary estimates in 2 cities and 6 towns,	7.59 miles
Final surveys in 8 towns,	5.71 miles

For State Highway Reconstruction

Preliminary surveys in 2 cities and 33 towns,	52.07 miles
Preliminary plans in 3 cities and 29 towns,	30.81 miles
Preliminary estimates in 3 cities and 27 towns,	39.03 miles
Final surveys in 13 towns,	8.12 miles

For Chapter 81

Preliminary surveys in 1 town,	0.18 miles
Preliminary estimates in 144 towns,	7772.97 miles

For Chapter 90, Section 34 Construction

Preliminary surveys in 14 cities and 65 towns,	81.86 miles
Preliminary plans in 10 cities and 99 towns,	96.72 miles
Preliminary estimates in 32 cities and 253 towns,	164.22 miles
Final surveys in 9 cities and 37 towns,	19.03 miles

For Chapter 90, Section 34 Maintenance

Preliminary estimates in 1 city and 192 towns,	1195.52 miles
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For Chapter 690 Bridges, Acts of 1945

Preliminary surveys in 10 cities and 22 towns,	8.52 miles
Preliminary plans in 6 cities and 22 towns,	8.15 miles
Preliminary estimates in 3 cities and 11 towns,	1.83 miles

For State Highway Maintenance

Preliminary surveys in 2 towns,	0.86 miles
Preliminary plans in 2 towns,	0.50 miles

For Logan International Airport

Preliminary surveys in 1 city,	10.00 miles
Preliminary plans in 1 city,	10.00 miles
Preliminary estimates in 1 city,	10.00 miles

For Grade Crossing Elimination

Preliminary studies in 3 cities 46 towns 28 miles

Reconnaissance Studies

For State Highways 14 cities 55 towns 200 miles

9.36 miles of State Highway were laid out in 23 cities and towns.
State Highway alterations not involving mileage changes were made
in 23 cities and towns.

6.13 miles of State Highway were discontinued in 4 towns.

5 Grade Crossing elimination decrees were signed in 3 cities and
towns.

1 Street Railway decree was signed.

City or Town layouts were prepared for 10 cities or towns.

County layouts were prepared in 17 cities and towns.

The total State Highway Mileage on July 1, 1947 was 1,950.98 miles.

PERMITS. There were 3,615 permits issued during the period for opening or occupying State highways for various purposes.

ENGINEERING ADVICE. The Department furnished engineering advice without charge to the Hospital School for Crippled Children at Canton, in accordance with the provisions of Section 1, Chapter 81, General Laws.

APPROVAL OF SPECIFICATIONS. The Department approved during the period under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in Southbridge and Fall River.

APPROVAL OF BRIDGE PLANS. The Department approved during the period under the provisions of Section 35, Chapter 85, General Laws, Ter. Ed., plans of the Oyster Harbors Bridge in Barnstable and the Main Street Bridge in Framingham.

The Department approved during the period under the provisions of Chapter 562 of the Acts of 1946, as amended by Chapter 626 of the Acts of 1947, plan of the Mystic River Bridge between Boston and Chelsea.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws, Ter. Ed.; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 298 cases; on the matter of the petition of the Boston Elevated Railway Company to lay tracks on the State highway, known as Broadway, in Revere; on the matter of the abolition of grade crossings in Belmont and Boston; on the matter of the alteration of railroad crossings on State highway in Peabody; and on the matter of laying out State highways in Gloucester, Boylston, Salem, West Stockbridge, Methuen and Orange.

	<u>Petitions</u>	<u>Contracts</u>
Street Railway Petition	1	--
Work under section 34, chapter 90, General Laws	---	592
Work under section 26, chapter 81, General Laws	180	180
State Highways and Bridges	---	53
Miscellaneous	---	57
	<u>181</u>	<u>882</u>

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

July 1, 1946 - June 30, 1947

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:

Great Barrington-Sheffield

July 9, 1946, contract made with The Henley-Lundgren Company of Shrewsbury, for constructing a three-span steel stringer bridge with concrete deck over Green River and three concrete box bridges in Great Barrington and Sheffield and reconstructing about 18,569 feet of State highway; surface consisting of bituminous macadam and cement concrete pavement. The proposal amounted to \$519,779.25. Work about three-fifths completed. Expenditure during fiscal year, \$352,780.17.

Boston

July 23, 1946, contract made with Coleman Bros. Corporation of Boston, for excavation, grading and drainage of slopes and miscellaneous incidental work on the State highway, known as the Wm. F. McClellan Highway. The proposal amounted to \$88,688.00. Work practically completed. Expenditure during fiscal year, \$73,222.97.

Sterling-West Boylston

July 30, 1946, contract made with Peter Salvucci of Waltham, for constructing a steel stringer bridge with concrete deck over tracks of the Boston and Maine Railroad and 2,711 feet of approaches thereto; the surface of the bridge consisting of bituminous concrete pavement and the approaches consisting of bituminous macadam. The proposal amounted to \$166,254.40. Work about three-fourths completed. Expenditure during fiscal year, \$108,077.53.

Lynn-Salem

July 30, 1946, contract made with S. Rotondi & Sons of Stoneham, for reconstructing about 12,572 feet of State highway on Western Avenue and Highland Avenue; the surface consisting of bituminous concrete and bituminous macadam. The proposal amounted to \$432,601.00. Work about one-half completed. Expenditure during fiscal year, \$191,928.55.

North Andover

August 13, 1946, contract made with G. Rotondi & Sons of Melrose, for reconstructing about 23,139 feet of State highway on the Salem Turnpike; the surface consisting of reinforced cement concrete pavement and bituminous macadam. The proposal amounted to \$390,022.00. Work about one-half completed. Expenditure during fiscal year, \$198,317.36.

Wellesley

August 13, 1946, contract made with John McCourt Company of Boston, for resurfacing about 4,950 feet of State highway on the Worcester Turnpike; the surface consisting of bituminous concrete pavement and cement concrete pavement. The proposal amounted to \$52,395.45. Work completed October 16, 1946. Expenditure during fiscal year, \$53,841.73.

Beverly-Danvers

August 27, 1946, contract made with M. DeMatteo Construction Co. of Quincy, for constructing two concrete rigid frame bridges over Cabot Street and Dodge Street in Beverly and 6,147 feet of State highway on the Northern Circumferential Highway in a new location; the surface consisting of bituminous macadam. The proposal amounted to \$681,123.72. Work about two-thirds completed. Expenditure during fiscal year, \$465,435.24.

Dedham-Needham

August 27, 1946, contract made with Sebastian Triconi of Waltham, for the alteration of the easterly elevation of the bridge on the Circumferential Highway over Charles River and reconstructing about 760 feet of State highway on the Circumferential Highway in Dedham and about 300 feet in Needham; the surface consisting of bituminous macadam. The proposal amounted to \$18,055.50. Work completed November 2, 1946. Expenditure during fiscal year, \$22,641.33.

North Attleborough

September 3, 1946, contract made with Campanella & Cardo Const. Co. of Cranston, Rhode Island, for reconstructing about 2,523 feet of State highway on the North Attleborough By-Pass, (Route 1); the surface consisting of reinforced cement concrete pavement and bituminous concrete pavement. The proposal amounted to \$51,225.00. Work completed December 24, 1946. Expenditure during fiscal year, \$53,717.96.

Lynnfield-Peabody

September 11, 1946, contract made with B. Perini & Sons, Inc. of Framingham, for reconstructing about 5,329 feet of State highway on the Newburyport Turnpike; the surface consisting of reinforced cement concrete pavement and bituminous macadam. The proposal amounted to \$335,354.00. Work about two-thirds completed. Expenditure during fiscal year, \$194,896.10.

Dennis

September 18, 1946, contract made with Martin J. Kelly Co., Inc. of Boston, for reconstructing a creosoted timber pile bridge with concrete deck over Swan Pond River on Main Street and about 921 feet of approaches thereto; the surface of the bridge consisting of sheet asphaltic concrete and the surface of the road consisting of bituminous concrete. The proposal amounted to \$58,628.55. Work practically completed. Expenditure during fiscal year, \$45,914.03.

Stockbridge

September 18, 1946, contract made with Petricca Construction Co. of Pittsfield, for reconstructing about 5,059 feet of State highway on Great Barrington Road; the surface consisting of penetrated bituminous macadam. The proposal amounted to \$81,999.75. Work about two-thirds completed. Expenditure during fiscal year, \$68,187.89.

Dartmouth-Westport

September 20, 1946, contract made with Warren Brothers Roads Company of Cambridge, for reconstructing about 11,980 feet of State highway on the Grand Army Highway in Dartmouth and about 5,745 feet of State highway on the Grand Army Highway in Westport; the surface consisting of reinforced cement concrete pavement. The proposal amounted to \$385,392.25. Work about one-third completed. Expenditure during fiscal year, \$136,061.28.

Bristol and Norfolk Counties

September 24, 1946, contract made with Aldrich Tree Service, Inc. of Dedham, for trimming trees on the State highways. The proposal amounted to \$4,895.00. Work completed December 20, 1946. Expenditure during fiscal year, \$4,753.15.

Northampton

October 29, 1946, contract made with George E. Duteau of Springfield, for reconstructing about 2,200 feet of State highway on Bridge Street; the surface consisting of bituminous concrete pavement and bituminous macadam. The proposal amounted to \$71,387.00. Work about one-half completed. Expenditure during fiscal year, \$46,840.00.

Sandwich

October 29, 1946, contract made with Jones Construction Co. of Barnstable, for reconstructing a drainage system on the State highway, known as Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$16,711.01. Work completed June 28, 1947. Expenditure during fiscal year, \$13,824.04

Peabody

November 12, 1946, contract made with Salvatore A. Mogavero of Peabody, for trench excavation, driveway work and incidental work relative thereto on the State highway, known as the Newburyport Turnpike. The proposal amounted to \$1,621.50. Work about one-half completed. Expenditure during fiscal year, \$1,100.36.

Webster

November 12, 1946, contract made with Frank J. Shields, Incorporated of Southbridge, for reconstructing about 9,309 feet of State highway on Thompson Road; the surface consisting of bituminous macadam. The proposal amounted to \$104,012.75. Work about two-thirds completed. Expenditure during fiscal year, \$72,576.57

Peabody

December 5, 1946, contract made with B. A. Simeone, Inc. of Medford, for reconstructing about 6,100 feet of State highway on the Newburyport Turnpike; the surface consisting of reinforced cement concrete pavement and bituminous macadam. The proposal amounted to \$346,045.00. Work about two-thirds completed. Expenditure during fiscal year, \$241,989.46.

Freetown

December 26, 1946, contract made with Callan Construction Corporation of Bristol, Rhode Island, for reconstructing about 440 feet of State highway on South Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$4,017.70. Work about one-half completed. Expenditure during fiscal year, \$2,391.05.

Gloucester

March 14, 1947, contract made with M. DeMatteo Construction Co. of Quincy, for grading and drainage of about 12,356 feet of proposed State highway, known as the Northern Circumferential Highway. The proposal amounted to \$1,285,776.00. Work about one-sixth completed. Expenditure during fiscal year, \$238,636.39.

Leicester

April 3, 1947, contract made with Normandy Construction Co., Inc. of Revere, for reconstructing about 3,600 feet of State highway on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$50,245.05. Work about one-half completed. Expenditure during fiscal year, \$22,754.36.

Lynn

April 8, 1947, contract made with S. J. Tomasello Corporation of Boston, for reconstructing about 2,130 feet of State highway on Western Avenue; the surface consisting of bituminous concrete. The proposal amounted to \$42,906.75. Work about three-fifths completed. Expenditure during fiscal year, \$27,613.23.

Hingham

April 8, 1947, contract made with Bradford Weston, Inc. of Hingham, for reconstructing about 940 feet of State highway on Summer Street; the surface consisting of bituminous concrete. The proposal amounted to \$12,833.50. Work about one-half completed. Expenditure during fiscal year, \$6,767.92.

Lee

May 13, 1947, contract made with George E. Duteau of Springfield, for reconstructing about 1,100 feet of State highway on Water Street, Route 20; the surface consisting of bituminous macadam. The proposal amounted to \$22,406.50. Work just commenced. Expenditure during fiscal year, \$1,457.75.

Edgartown-Oak Bluffs

May 20, 1947, contract made with Turner & Breivogel, Inc. of Falmouth, for repairing timber pile trestle bridge over Sengekontacket Pond. The proposal amounted to \$1,511.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Bristol and Norfolk Counties

May 20, 1947, contract made with Aldrich Tree Service, Inc. of Dedham, for trimming trees on State highways. The proposal amounted to \$6,906.00. Work about one-sixth completed. Expenditure during fiscal year, \$1,242.19

Grafton

May 20, 1947, contract made with Greenough Bros., Inc. of Waltham, for reconstructing about 5,400 feet of State highway on Upton Road; the surface consisting of bituminous macadam. The proposal amounted to \$41,440.00. Work about one-sixth completed. Expenditure during fiscal year, \$6,516.40.

Orange

June 18, 1947, contract made with Warner Bros. Inc. of Sunderland, for constructing about 4,980 feet of State highway on South Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$62,984.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Sudbury

June 18, 1947, contract made with G. Bonazzoli & Sons of Bolton, for reconstructing a concrete beam and slab bridge over Parmenter's Brook and about 394 feet of approaches thereto; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$12,007.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

West Stockbridge

June 18, 1947, contract made with Patricea Construction Company of Pittsfield, for constructing about 3,538 feet of State highway on State Line Road; the surface consisting of bituminous macadam. The proposal amounted to \$43,803.75. Work not yet commenced. Expenditure during fiscal year, Nothing.

Greenfield-Montague

June 18, 1947, contract made with J. F. Fitzgerald Construction Company of Boston, for constructing a through truss and steel stringer bridge over the Connecticut River and about 1,797 feet of approaches thereto on Montague City Road; the surface of the bridge consisting of bituminous concrete pavement and the surface of the road consisting of bituminous macadam. The proposal amounted to \$903,914.20. Work not yet commenced. Expenditure during fiscal year, Nothing.

Methuen

June 18, 1947, contract made with the Central Construction Co. of Lawrence, for constructing about 4,100 feet of State highway on Broadway, Auto Route 28; the surface consisting of bituminous macadam. The proposal amounted to \$150,790.60. Work not yet commenced. Expenditure during fiscal year, Nothing.

Boston

June 18, 1947, contract made with the Old Colony Construction Co. of Quincy, for resurfacing about 1,530 feet of State highway on Water Street; the surface consisting of bituminous concrete. The proposal amounted to \$9,015.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Marshfield

June 18, 1947, contract made with Martin J. Kelly Co., Inc. of Boston, for reconstructing a concrete beam and slab bridge over South River and about 590 feet of approaches thereto on Main Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$31,619.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Milton

June 24, 1947, contract made with Charles Capone Construction Co., Inc. of Boston, for reconstructing about 2,850 feet of State highway on Randolph Avenue; the surface consisting of cement concrete and bituminous concrete. The proposal amounted to \$86,577.10. Work not yet commenced. Expenditure during fiscal year, Nothing.

South Hadley

June 24, 1947, contract made with Demos Brothers General Contractors, Incorporated of Springfield, for reconstructing about 2,965 feet of State highway on Lamb Street and Newton Street; the surface consisting of bituminous macadam. The proposal amounted to \$45,599.30. Work not yet commenced. Expenditure during fiscal year, Nothing.

Harwich

June 24, 1947, contract made with Joseph J. Mayne Co. of Somerville, for cleaning and painting bridge on Auto Route 28 over Herring River. The proposal amounted to \$1,760.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Bourne-Lakeville

June 24, 1947, contract made with Joseph J. Mayne Co. of Somerville, for cleaning and painting bridge, known as Lakeville Overpass, on Auto Route 18 in Lakeville and cleaning and painting bridge at the junction of Auto Routes 28 and 6 in Bourne. The proposal amounted to \$1,390.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Arlington-Belmont-Newton

June 24, 1947, contract made with S. Rosenthal & Son of Cambridge, for cleaning and painting bridge on Auto Route 2 in Arlington, cleaning and painting bridge on Pleasant Street on Auto Route 60 over Auto Route 2 in Belmont and cleaning and painting two bridges on Auto Route 9 in Newton. The proposal amounted to \$2,550.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Boston

June 24, 1947, contract made with Joseph J. Mayne Co. of Somerville, for cleaning and painting three bridges on Beacon Street, Brookline Avenue (both over Boston and Albany Railroad and Beacon Street over Muddy River. The proposal amounted to \$2,200.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Tyngeborough

June 24, 1947, contract made with Worcester Painting Contractors, Inc. of Worcester, for cleaning and painting bridge on Auto Route 113 over the Merrimac River. The proposal amounted to \$9,900.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Holyoke-South Hadley

June 24, 1947, contract made with E. T. O'Neill & Son of Holyoke, for repairing sections of the easterly sidewalk of the Holyoke-South Hadley Bridge over the Connecticut River. The proposal amounted to \$2,454.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Gloucester

June 24, 1947, contract made with Massachusetts Painting & Waterproofing Co. of Quincy, for cleaning and painting Blyman Bridge on Auto Route 127. The proposal amounted to \$2,945.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Somerville

June 24, 1947, contract made with B. S. Argeros & Co. of Bethlehem, Pennsylvania, for cleaning and painting bridge on the Northern Artery on Auto Route 1 over the Boston and Maine Railroad. The proposal amounted to \$5,600.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Fitchburg

June 24, 1947, contract made with John T. Bradley of Newton, for cleaning and painting Water Street Bridge on Auto Route 12 over the Nashua River. The proposal amounted to \$1,995.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Beverly-Salem

June 24, 1947, contract made with A. Cafalo & Sons of Lynn, for constructing a reinforced concrete double curb, reconstructing sections of sidewalk and making miscellaneous repairs to the bridge on Auto Route 1A over Beverly Harbor. The proposal amounted to \$3,818.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

July 1, 1946 - June 30, 1947

The following contracts were entered into for miscellaneous work:

Taunton

September 20, 1946, contract made with Bostock & Inman Electric Company of Taunton, for installing lighting equipment in the District Six Office of the Department. The proposal amounted to \$80. Work completed November 12, 1946. Expenditure during fiscal year, \$80.00

Newburyport-Salisbury

September 25, 1946, contract made with Bertram E. Savage of Newbury, for making repairs to deck of bridge over Merrimac River on Auto Route 1. The proposal amounted to \$1,904.92. Work completed October 28, 1946. Expenditure during fiscal year, \$2,071.04.

New Bedford

October 25, 1946, contract made with Boston Marine Works, Inc. of Boston, for making repairs to drawbridge on Auto Route 6 over New Bedford Harbor. The proposal amounted to \$1,180.00. Work completed December 11, 1946. Expenditure during fiscal year, \$1,235.00.

Boston

October 29, 1946, contract made with R. A. Buccella & Sons of Boston, for making repairs to sidewalk at Dorchester Avenue Drawbridge over Fort Point Channel. The proposal amounted to \$2,604.50. Work completed December 6, 1946. Expenditure during fiscal year, \$2,546.96.

Lee

October 29, 1946, contract made with Nat Beacco & Sons of Stockbridge, for replacing existing timber deck and wheelguards of bridge on Route 102 over the New York, New Haven and Hartford Railroad. The proposal amounted to \$3,936.00. Work completed March 12, 1947. Expenditure during fiscal year, \$4,065.71.

Boston

December 10, 1946, contract made with Casey & Hayes of Boston, for moving miscellaneous tools, office furniture and equipment from the State Armory on Commonwealth Avenue to Commonwealth Pier and 100 Nashua Street. The proposal amounted to \$192.00. Work completed December 16, 1946. Expenditure during fiscal year, \$336.25.

Massachusetts

December 10, 1946, contract made with the President and Fellows of Harvard College of Cambridge, for making aerial photographic research, study and reports of Department designated highway routes in the Commonwealth of Massachusetts in the application of aerial photography and photogrammetry to highway design and location. The proposal amounted to \$10,000.00. Work about one-third completed. Expenditure during fiscal year, \$3,225.32.

Legislative Reports

December 19, 1946, contract made with Legislative Reporting Service of Boston, for furnishing service relative to legislative bills. Expenditure during fiscal year, \$64.21.

Boston

December 19, 1946, contract made with Enterprise Oil Burner Sales Co. of Boston, for reconverting coal heating to oil at the D Street Warehouse. The proposal amounted to \$1,656.00. Work completed February 17, 1947. Expenditure during fiscal year, \$1,656.00.

Athol

December 26, 1946, contract made with Karl S. Kendrick of Athol, for installing electrical service at the sand storage shed of the Department on Route 2. The proposal amounted to \$111.41. Work completed February 4, 1947. Expenditure during fiscal year, \$111.41.

Boston

December 31, 1946, contract made with Henry Jenkins Transportation Co., Incorporated of Boston, for moving contents of the Maintenance Shop of the Department at 25 Gaffney Street, Allston to a new location at 400 D Street, South Boston. The proposal amounted to \$15,457.00. Work completed February 6, 1947. Expenditure during fiscal year, \$12,565.56.

Westminster

December 31, 1946, contract Made with Johnson Electric Service of Templeton, for installing electrical service at a storage building and stockpile of the Department on Route 2. The proposal amounted to \$78.14. Work completed February 4, 1947. Expenditure during fiscal year, \$86.27.

Fall River-Somerset

December 31, 1946, contract made with R. A. Buccella & Sons of Boston, for making repairs to the east fender pier of the Slades Ferry Bridge over the Taunton River. The proposal amounted to \$1,575.00. Work completed April 9, 1947. Expenditure during fiscal year, \$1,575.00.

Boston

January 7, 1947, contract made with Russell E. McCassey, Inc. of Newton, for cleaning and painting certain rooms at the Maintenance Shop of the Department at 400 D Street, South Boston. The proposal amounted to \$1,570.00. Work completed January 31, 1947. Expenditure during fiscal year, \$1,570.00

Boston

January 21, 1947, contract made with L. H. McIsaac Company of Boston, for building a compressor foundation at the D Street Garage of the Department in South Boston. The proposal amounted to \$190.00. Work completed January 27, 1947. Expenditure during fiscal year, \$190.00.

Fairhaven-New Bedford

January 29, 1947, contract made with Carney Construction Company, Inc. of Somerville, for erecting electrically operated traffic gates at the Fairhaven-New Bedford Bridge on Auto Route 6 over the Acushnet River. The proposal amounted to \$18,900.00. Work just commenced. Expenditure during fiscal year, \$2,409.75.

Engineering Services

February 4, 1947, contract made with Hugh P. Duffill of Pembroke, for inspecting and rating about 105 bridges acquired under the provisions of Chapter 690. The proposal amounted to \$15,000.00. Work about one-third completed. Expenditure during fiscal year, \$5,990.24.

Framingham

February 11, 1947, contract made with Warley Electrical Company of Natick, for replacing existing wiring and fixtures at sand bin of the Department off Route 30. The proposal amounted to \$175.00. Work completed February 17, 1947. Expenditure during fiscal year, \$175.00.

Boston

February 11, 1947, contract made with Metherall & McCausland of Quincy, for installing new gas meter and approximately 200 linear feet of 2-inch pipe with connections to a "Solvex" model "VS 800" solvent machine at the Maintenance Shop of the Department at 400 D Street, South Boston. The proposal amounted to \$242.39. Work completed February 19, 1947. Expenditure during fiscal year, \$242.39.

Middleborough

February 11, 1947, contract made with Bassett & Broadbent of Middleborough, for connecting a portable gasoline-powered generator to existing 110 Volt lines at the Middleborough Storehouse of the Department on Vine Street. The proposal amounted to \$123.00. Work completed March 31, 1947. Expenditure during fiscal year, \$104.55.

Motion Picture

February 25, 1947, contract made with Master Motion Picture Co. of Boston, for producing a completed 1200-foot Kodachrome sound film for the Department. The proposal amounted to \$1,665.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Sudbury

February 25, 1947, contract made with the Warley Electrical Company of Natick, for installing electrical service and fixtures at the sand bin of the Department on Route 20. The proposal amounted to \$585.00. Work completed March 21, 1947. Expenditure during fiscal year, \$585.00.

Fall River-Somerset

March 18, 1947, contract made with Frederick W. Byron of Dedham, for installing an electrically-operated end lock on the draw span of the Slades Ferry Bridge over the Taunton River. The proposal amounted to \$2,680.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Grafton

April 8, 1947, contract made with John F. McPartland of Worcester, for installing electrical service at a sand storage shed of the Department on Route 122. The proposal amounted to \$209.00. Work completed June 3, 1947. Expenditure during fiscal year, Nothing.

Worcester

April 8, 1947, contract made with Dawson W. Richard of Holden, for furnishing and erecting partitions in proposed District Office of the Department at 40 Foster Street. The proposal amounted to \$2,128.83. Work completed June 20, 1947. Expenditure during fiscal year, \$1,584.26.

Beverly

April 8, 1947, contract made with Lee & Osborn, Inc. of Salem, for installing new wiring, light fixtures and outlets at the Beverly Storehouse of the Department. The proposal amounted to \$1,142.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Framingham

April 29, 1947, contract made with B. Perini & Sons, Inc. of Framingham, for constructing a concrete arch bridge over Eames Brook and a steel stringer bridge with concrete rigid frame approach spans over the tracks of the New York, New Haven and Hartford Railroad and about 1,725 feet of highway on a new location on Mount Wayte Avenue; the surface consisting of bituminous concrete pavement. The proposal amounted to \$227,672.70. Work just commenced. Expenditure during fiscal year, \$3,213.00.

Revere

May 13, 1947, contract made with the Suburban Gas and Electric Company of Revere, for furnishing street lighting service at the Squire Road Traffic Circle. The proposal amounted to \$1,150.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Revere

May 13, 1947, contract made with the Suburban Gas and Electric Company of Revere, for furnishing street lighting service at the Butler Traffic Circle. The proposal amounted to \$1,760.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Mailing Maps

May 23, 1947, contract made with The Cochrane Company of Boston, for addressing and mailing 1947 automobile route maps issued by the Department and revising mailing list as required for calendar year ending December 31, 1947. The proposal amounted to \$1,054.34. Work not yet commenced. Expenditure during fiscal year, Nothing.

Milton

June 3, 1947, contract made with the Municipal Signal & Supply Company of Boston, for furnishing and installing traffic control signals on Route 28. The proposal amounted to \$3,838.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Worcester

June 10, 1947, contract made with John H. Quinn of Worcester, for furnishing and applying paint at new quarters of District #3 Office of the Department at 40 Foster Street. The proposal amounted to \$635.00. Work completed June 26, 1947. Expenditure during fiscal year, \$539.75.

Worcester

June 10, 1947, contract made with LaForce Movers of Worcester, for moving all property of the Department from 476 Main Street to 40 Foster Street. The proposal amounted to \$360.00. Work completed June 28, 1947. Expenditure during fiscal year, \$262.65.

Worcester

June 10, 1947, contract made with the Scrimgeour Electric Company, Inc. of Worcester, for furnishing and installing electrical work at 40 Foster Street. The proposal amounted to \$1,061.00. Work completed June 25, 1947. Expenditure during fiscal year, \$901.85.

Barnstable County

June 18, 1947, contract made with The F. A. Bartlett Tree Expert Company of Cambridge, for aerial spraying of about 188 miles of State highway easterly of the Cape Cod Canal in the County of Barnstable. The proposal amounted to \$2,887.68. Work just commenced. Expenditure during fiscal year, \$343.40.

BORINGS

July 1, 1946 - June 30, 1947

The following contracts were entered into for taking borings in various municipalities:

July 9, 1946, contract made with Raymond Concrete Pile Company of Boston, for taking wash borings in Newburyport, Charlton, Mendon, Newbury, Salisbury and Uxbridge. The proposal amounted to \$1,904.40. Work completed August 13, 1946. Expenditure during fiscal year, \$1,134.91

August 20, 1946, contract made with Chas. A. Leary Co. of Boston, for taking wash borings in Boston. The proposal amounted to \$2,133.00 Work completed September 30, 1946. Expenditure during fiscal year, \$2,177.48.

October 29, 1946, contract made with Edward F. Hughes Co. of Boston, for taking wash borings in Fitchburg, Pittsfield, Leominster, Northborough, North Reading, Plymouth, Scituate and Southwick. The proposal amounted to \$2,040.60. Work completed January 28, 1947. Expenditure during fiscal year \$2,134.58.

December 10, 1946, contract made with Edward F. Hughes Co. of Boston, for taking wash borings in Boston, Fitchburg, Taunton, Blackstone, Chesterfield, Grafton, Hingham and Stow. The proposal amounted to \$3,295.50. Work completed January 30, 1947. Expenditure during fiscal year, \$1,876.10.

December 31, 1946, contract made with Raymond Concrete Pile Company of Boston, for making an engineering soil investigation at certain points in the area to be occupied by the East Boston Express Highway in Boston. The proposal amounted to \$7,500.00. Work completed March 18, 1947. Expenditure during fiscal year, \$7,500.00.

February 11, 1947, contract made with Chas. A. Leary Co. of Boston, for taking wash borings in Lunenburg and Wayland. The proposal amounted to \$1,624.40. Work completed February 27, 1947. Expenditure during fiscal year, \$1,557.56.

March 25, 1947, contract made with B. F. Smith and Company, Incorporated of Boston, for taking wash borings in Adams, Charlton, Lenox, Marshfield, Middleborough, Northampton, Pittsfield and Rutland. The proposal amounted to \$2,818.20. Work completed May 16, 1947. Expenditure during fiscal year, \$2,586.89

100% Federal Aid

July 1, 1946 -- June 30, 1947

The following contracts were entered into during the year for highway work with Federal Government paying 100% of the cost of construction.

Sterling-West Boylston

July 30, 1946, contract made with Peter Salvucci of Waltham for constructing a steel stringer bridge with concrete deck and approaches over the tracks of the Boston and Maine Railroad on West Boylston Road in Sterling, including about 2711 feet of highway; the surface of the bridge consisting of sheet asphaltic concrete and of the road consisting of bituminous macadam. The proposal amounted to \$166,254.40. This project was carried over to the next fiscal year being completed October 27, 1947. Expenditures during fiscal year \$157,982.56, exclusive of land damages and railroad charges.

Framingham

April 29, 1947, contract made with B. Perini & Sons, Inc. of Framingham for constructing a steel stringer and concrete rigid frame structure and approaches over the tracks of the New York, New Haven and Hartford Railroad on Mt. Wayte Ave., as relocated, including 1725 feet of highway; the surface of the bridge and of the road consisting of Class I bituminous concrete. The proposal amounted to \$227,672.70. The project was carried over to the next fiscal year being completed July 21, 1948. Ex-

penditures during fiscal year; nothing.

CHAPTER 690 BRIDGES

The following contracts were entered into during the year for the construction and reconstruction of bridges transferred to the Department under the provisions of Chapter 690, Acts of 1945, and work incidental thereto in various municipalities:

Colrain

August 6, 1946, contract made with Warner Bros. and Goodwin, Inc. of Sunderland, for making repairs to White Bridge on Route 112 over the North River. The proposal amounted to \$6,314.00. Work completed November 21, 1946. Expenditure during fiscal year, \$6,267.30.

Tolland-Granville

September 20, 1946, contract made with Mario Deleghia of Agawan, for placing rock under the Main Road Bridge on Auto Route 57 over Hubbard Brook. The proposal amounted to \$975.00. Work completed November 18, 1946. Expenditure during fiscal year, \$912.60.

Chelmsford

October 1, 1946, contract made with Martin J. Kelly Co., Inc. of Boston, for replacing roadway deck and sidewalks on Princeton Street Bridge over Boston and Maine Railroad and Canal. The proposal amounted to \$5,484.00. Work completed November 19, 1946. Expenditure during fiscal year, \$5,535.76.

Hardwick

April 3, 1947, contract made with Kelleher Corporation of Montague, for constructing a reinforced concrete beam bridge over Moose Brook and about 420 feet of approaches thereto on Main Street, Auto Route 32; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$34,986.50. Work about one-third completed. Expenditure during fiscal year, \$12,439.75.

West Bridgewater

April 3, 1947, contract made with David J. Roach of East Bridgewater, for widening the bridge over Town River and constructing about 900 feet of approaches thereto on South Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$25,538.25. Work about one-third completed. Expenditure during fiscal year, \$7,576.90.

Greenfield

April 15, 1947, contract made with Warner Bros. Inc. of Sunderland, for replanking the existing sidewalk and constructing new sidewalk and railing on Green River Bridge over Green River. The proposal amounted to \$9,516.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Fitchburg

May 6, 1947, contract made with Daniel D'Onfro Sons of Leominster, for constructing a steel stringer bridge over Phillips Brook and about 400 feet of approaches thereto on Westminster Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$46,474.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Fitchburg

May 6, 1947, contract made with Daniel D'Onfro Sons of Leominster, for constructing a two-span steel stringer bridge and about 215 feet of approaches thereto on River Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$55,927.24. Work not yet commenced. Expenditure during fiscal year, Nothing.

Northborough-Westborough

June 3, 1947, contract made with C. L. Guild Construction Co., Inc. of Providence, Rhode Island, for constructing a four-span concrete slab bridge and about 850 feet of approaches thereto on South and Milk Streets; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$28,064.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

North Reading

June 3, 1947, contract made with Coleman Bros. Corporation of Boston, for constructing a steel stringer bridge over the Ipswich River and about 567 feet of approaches thereto on Washington Street; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$57,347.50. Work not yet commenced. Expenditure during fiscal year, Nothing.

Douglas

June 3, 1947, contract made with The Henley-Lundgren Company of Shrewsbury, for constructing a steel stringer bridge with concrete deck over Mumford River and about 2,300 feet of approaches thereto; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$70,453.00. Work just commenced. Expenditure during fiscal year, \$7,555.44.

Pittsfield

June 10, 1947, contract made with The Henley-Lundgren Company of Shrewsbury, for constructing a two-span steel stringer bridge over Housatonic River and about 433 feet of approaches thereto on West Housatonic Street; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of standard cement concrete pavement. The proposal amounted to \$102,981.75. Work not yet commenced. Expenditure during fiscal year, Nothing.

Stow

June 18, 1947, contract made with Northern Construction Company, Inc. of Lawrence, for constructing a three-span steel stringer bridge over Assabet River and about 1,200 feet of approaches thereto on Gleasondale Road; the surface of the bridge consisting of bituminous concrete pavement and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$139,622.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Taunton

June 18, 1947, contract made with Lane Brothers Construction Co., Inc. of Boston, for constructing a concrete beam and slab bridge over Mill River and about 53 feet of approaches thereto on Weir Street; the surface consisting of bituminous concrete pavement. The proposal amounted to \$14,549.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

Rutland

June 18, 1947, contract made with The Henley-Lundgren Company of Shrewsbury, for constructing a reinforced concrete beam and slab bridge over Ware River and about 2,000 feet of approaches thereto on East County Road; the surface consisting of bituminous road-mix. The proposal amounted to \$68,631.25. Work not yet commenced. Expenditure during fiscal year, Nothing.

Southwick

June 18, 1947, contract made with Warner Bros. Inc. of Sunderland, for constructing reinforced concrete box bridge over Congamond Pond and about 516 feet of approaches thereto on Congamond Road; the surface of the bridge consisting of bituminous concrete pavement and the approaches consisting of bituminous macadam. The proposal amounted to \$16,731.60. Work not yet commenced. Expenditure during fiscal year, Nothing.

PUBLIC WORKS BUILDING CONTRACTS - July 1, 1946 - June 30, 1947

The following contracts were entered into during the year for miscellaneous work in the office building of the Department of Public Works, 100 Nashua Street, Boston.

August 13, 1946, contract made with L. C. Anderson of Boston, for furnishing and installing refrigerating equipment for Cold Rooms for the Materials Laboratory. The proposal amounted to \$1,355.00. Work completed November 2, 1946. Expenditure during fiscal year, \$1,423.16.

September 24, 1946, contract made with Allen Shade Holder Co. of Boston, for repairing and furnishing window shades. The proposal amounted to \$225.36. Work completed June 30, 1947. Expenditure during fiscal year, \$117.94.

October 8, 1946, contract made with P. J. Dinn & Co. of Boston, for erecting a four (4) foot high iron picket fence with five (5) walk gates on the Nashua Street side. The proposal amounted to \$985.00. Work completed December 30, 1946. Expenditure during fiscal year, \$985.00.

October 8, 1946, contract made with Stearns, Ferry & Smith Co. of Boston, for installing two (2) 1000 watt floodlights on the granite sill of the second floor on the Nashua Street side. The proposal amounted to \$203.00. Work completed December 5, 1946. Expenditure during fiscal year, \$203.00.

October 16, 1946, contract made with Careful Cleaning Co. of Boston, for cleaning all windows every two months. The proposal amounted to \$2,100.00. Work completed June 30, 1947. Expenditure during fiscal year, \$1,750.00.

November 20, 1946, contract made with Robert W. Harris of Somerville, for furnishing and installing fluorescent lights on the seventh floor. The proposal amounted to \$550.00. Work completed December 24, 1946. Expenditure during fiscal year, \$550.00.

November 27, 1946, contract made with A. J. Wolfe Co. of Boston, for furnishing and installing panel box, outlets and incidental wiring on the fourth floor. The proposal amounted to \$360.00. Work completed January 21, 1947. Expenditure during fiscal year, \$360.00.

December 10, 1946, contract made with Pitcher & Company, Inc. of Boston, for furnishing and erecting office partitions on the ninth floor of the office building. The proposal amounted to \$2,885.00. Work practically completed. Expenditure during fiscal year, \$2,392.54.

December 10, 1946, contract made with Daniel Marr and Son Company of Boston, for refinishing two flagpoles in front of the office building. The proposal amounted to \$135.00. Work completed March 3, 1947. Expenditure during fiscal year, \$135.00.

January 14, 1947, contract made with Otis Elevator Company of Boston, for installing cables for the No. 2 elevator. The proposal amounted to \$225.00. Work completed February 5, 1947. Expenditure during fiscal year, \$225.00.

January 29, 1947, contract made with M. B. Foster Electric Company of Boston, for furnishing and installing fluorescent lights. The proposal amounted to \$12,256.80. Work just commenced. Expenditure during fiscal year, \$2,823.87.

March 4, 1947, contract made with Consolidated Elevator Company of Boston, for furnishing and installing new compensating cables on elevator No. 1. The proposal amounted to \$136.00. Work completed March 17, 1947. Expenditure during fiscal year, \$136.00.

April 29, 1947, contract made with Columbia Cornice Company of Cambridge, for removing the old roof and constructing a new roof. The proposal amounted to \$8,325.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

June 24, 1947, contract made with A. B. Stanley Company, Inc. of Boston, for furnishing and installing fume hood and sash units for the Materials Testing Laboratory in the basement. The proposal amounted to \$1,100.00. Work not yet commenced. Expenditure during fiscal year, Nothing.

ACCESS ROAD PROJECT

The following contract was entered into for an Access Road in the town of Nantucket; the Federal Government paying 100% of the cost of construction:

August 28, 1946, contract made with Turner & Breivogel, Inc. of Falmouth Heights, for reconstructing and resurfacing about 3,062 feet of highway on Low Beach Road; the surface consisting of bituminous road-mix. The proposal amounted to \$5,747.00. Work completed November 30, 1946. Expenditure during fiscal year, \$5,404.40.

RIGHT OF WAY

The Right of Way Division has the responsibility, in the procurement of all land and rights in lands, of settling all land damages throughout the Commonwealth for the construction and reconstruction of State Highways; also the preparing of all drainage easement plans on construction, reconstruction, and maintenance of State Highways; work for Waterways Division and other State departments.

The work of the Right of Way Division is carried on under the direction of the Right of Way Engineer by the following staff: 1 Assistant Right of Way Engineer, 12 Right of Way field engineers, and an office force of which includes office engineer, assistant office engineer, 4 draftsmen, secretary and 2 assistants.

The Right of Way field engineers' duties involve the making of detailed real estate appraisals on various projects, covering all types of property--commercial, industrial, residential and water front, and damages caused by complete or partial takings. Private property is adjusted to meet the changes in grade because of construction. Negotiations are carried on with the property owners, their agents or attorneys.

In addition to the other duties performed by the Right of Way field engineer, he is now a notary public, which in many cases has been found advantageous to the Department. Upon completion of a title search the deed is then prepared, and after the award has been voted by the Board the field engineer then obtains the necessary signatures and returns the papers to the Department Secretary.

During the fiscal year just ended there were 48 projects in 43 cities and towns, involving the settlement of 445 land damage cases and some 100 flights of entry were obtained for certain work to be done on private properties, i.e.:

(Appraisals were made of each property affected either by the taking or a change of grade.)

Ayer	Grafton	Montague	Stow
Beverly	Greenfield	Northampton	Wakefield
East Boston	Hanover	North Andover	Wales
Braintree	Hardwick	North Attleboro	Webster
Chesterfield	Hingham	North Reading	West Bridgewater
Dartmouth	Holbrook	Orange	Westminster
Douglas	Lee	Pesbody	Westport
Easton	Lynnfield	Pittsfield	West Stockbridge
Fitchburg	Marshfield	Salem	Westwood
Freetown	Methuen	South Hadley	Williamstown
Gloucester	Milton	Sterling	

During the fiscal year land damage studies were made in connection with proposed takings and construction involved on proposed new projects in the following cities and towns:

Southbridge	Weston
Wellfleet	Shirley
Kingston	East Boston
Plymouth	Brookline-Newton

PROJECTS

Field Studies and Reconnaissance Surveys for Major Improvements on a Number of the Main Highway Routes.

The list of studies for these projects, many of which were relocations, totaled 170 miles and included many bridges for both rivers and for grade crossings.

Major studies for developments were made for the following routes:

Route 1 - Dedham-Norwood - New Location

Route 2 - Concord-Leominster - New Location

Route " - Lowell By Pass

Route " - Lunenburg

Route 3 - Kingston-Plymouth By Pass

Route " - Middlesex Turnpike - New Location

Route " - Boston-Milton-Weymouth - New Location

Route 6 - Somerset-Fall River - New Location

Route " - Wareham-Bourne

Route 15- Sturbridge - New Location

Route 20- Lee-Lenox

Route " - Wayland By Pass

Route 128- Newton-Weston-Waltham-Lexington-Beverly-Gloucester-Canton-Hingham - New Location

Aerial work was used extensively and consisted primarily of vertical photography at various scales with cameras of different focal lengths. A total of 525 lineal miles was flown, and approximately 110 obliques, both black-and-white and colored, were taken of selected areas and routes. Approximately 5,500 contact prints and more than 350 enlargements (varying in size from 16x20 inches to 40x40 inches) were delivered. Both controlled and uncontrolled mosaics were made to investigate the suitability of each for the

work of the Project Division, more than 320 negatives being used in these compilations.

Studies were also made for improvement at both ends of the Sumner Tunnel for the proposed construction of a second tube. Preliminary investigations were also started for the Boston Central Artery Project.

Eighteen major projects were designed, estimated and advertised, during the year, which were financed in whole or in part by Federal Funds with a total cost of approximately \$6,308,635.

Surveys were made, plans plotted and projects designed for a large number of Chapter 90 Projects for a total value in excess of \$6,000,000 with the State expenditure of \$2,252,507.77.

The following is a resume of the more important highway projects which were advertised:

Lynnfield-Peabody - The reconstruction of 2.2 miles of the Newburyport Turnpike.

Beverly-Danvers - The construction of another 1.2 mile link in the Northern Circumferential Highway.

Gloucester - Grading and drainage for 2.3 miles at the northerly end of the Northern Circumferential Highway.

GREAT Barrington-Sheffield - The reconstruction of 3.3 miles of highway and the construction of a three span steel bridge.

Dartmouth-Westport - The reconstruction of 3.4 miles of the Grand Army Highway.

North Andover - The reconstruction of 4.4 miles of the Salem Turnpike.

Other projects were located in Sterling-West Boylston, Wellesley, Nantucket, Stockbridge and Webster.

PROJECTS

Field studies, reconnaissance surveys, and preliminary designs were made on two hundred miles of proposed highways in sixty-nine cities and towns. The principal projects included were: Route 3, Kingston-Plymouth; Route 15, Sturbridge; Route 128, Canton-Hingham; and Boston-Brookline.

During the year aerial reconnaissance surveys were extended considerably and a total of sixty miles of strips were flown and thirty-eight square miles were photographed, including thirty-four square miles at the East Boston Airport.

Field studies were made seeking possible future relocations of Route 1 from Newburyport to the New Hampshire line; Route 5 bypassing Northampton and Greenfield; Route 6 through New Bedford and Fall River from Sandwich to Orleans and in Provincetown; Route 20 from Auburn to Brimfield and in Chicopee; and from Quincy through Milton to the American Legion Highway in Boston.

A number of major projects were designed and estimated which were financed in whole or in part by Federal Funds. In addition to the Federal projects, surveys were made, plans plotted, projects designed and estimated on a number of Chapter 90 projects, and other projects financed entirely from State funds. Also designed, estimated and awarded were two projects for the construction of runways at the Logan Airport at a cost of approximately \$1,700,000.

In connection with field studies and design of projects now being prepared by the Project Division, advantage is being taken of seismic studies being made ^{for the Department} by Weston College to determine bedrock, and geo-

logic interpretation of the soil to bedrock being furnished by the U. S. Geological Survey; and aerial photographic research in the location and design of highways which the Department is developing in conjunction with Harvard University.

HIGHWAY CONSTRUCTION EXCLUDING CHAP 90

Subject Material for Annual Report
For
Fiscal Year Ending June 30, 1947

1. The reconstruction of 1.0 miles of the Newburyport Turnpike in Lynnfield and Peabody at a contract cost of \$335,354.00.
2. The reconstruction of 1.2 miles of the Newburyport Turnpike in Peabody at a contract cost of \$346,045.00.
3. The construction of another 1.2 mile link of the Northern Circumferential Highway in Beverly and Danvers at a contract cost of \$681,123.72.
4. The grading and drainage for 2.3 miles at the northerly end of the Northern Circumferential Highway in Gloucester at a contract cost of \$1,285,776.00.

An interesting feature of this project is the placing of the major portion of the new highway embankment by hydraulic dredging, the material being dredged from the Annisquam River.

5. The reconstruction of 3.5 miles of highway and the construction of a three-span steel bridge in Great Barrington and Sheffield at a contract cost of \$519,779.25.
6. The reconstruction of 3.4 miles of the Grand Army Highway in Dartmouth and Westport at a contract cost of \$385,392.25.

7. The reconstruction of 4.4 miles of the Salem Turnpike in North Andover at a contract cost of \$390,022.00.
8. The reconstruction of 2.4 miles of Route 107 on Western Avenue in Lynn and Highland Avenue in Salem at a contract cost of \$432,601.00.
9. The reconstruction of 1.3 miles of New Ashford Road in Lanesboro at a contract cost of \$169,517.94.
10. The reconstruction of 1.2 miles of Sugar Loaf Street in Deerfield at a contract cost of \$173,552.40.
11. The construction of a highway - railroad ^{bridge} crossing and the reconstruction of 0.5 miles of highway on West Boylston Road in Sterling and West Boylston at a contract cost of \$166,254.40.
12. The construction of a highway - railroad ^{bridge} ~~grade~~ crossing and reconstruction of 0.3 miles of highway on Mount Wayte Avenue in Framingham at a contract cost of \$227,672.70.
13. Another interesting project undertaken during the year was the grading of Breed's Hill slope on the William F. McClellan Highway in East Boston, and the installation of a complete drainage system under the slope to eliminate as much as possible the constant maintenance of this slope because of perpetual slides after every appreciable rain storm. The contract cost of this project was \$88,688.00.

ANNUAL REPORT TRAFFIC DIVISION

July 1, 1946 to June 30, 1947

In July of 1946, traffic functions, as they pertain to investigations and maintenance and to erection of signs, were transferred to the district offices. This was made necessary by the increase in volume of work and the lack of sufficient personnel in the Boston office.

This change in no way, however, altered the conditions which have, for several years, hampered traffic administration. Shipments of steel for signs fell far short of requirements. Substitution of aluminum did, however, ease the situation somewhat. Materials such as signal cable, housings and controllers still remained hard to obtain.

Even though thus hindered, the Traffic Division showed an increase in work accomplished over the previous year. The following represent the signs fabricated and shipped to the districts, the lines painted and the number of signals erected.

SIGNS

Warning	1146	Regulatory	525
		(incl. stop signs)	
Route Markers	3418	Delineators	8500
Directional	1734	Temporary	500

LINES

747 miles of traffic lines

SIGNALSInstalled

12 Signals
13 Beacons

Remodeled

7 Signals
5 Beacons

Took over

6 Signals

TOWN ADVICE

Although considerable help was given municipalities in the solving of perplexing problems, the work was confined mostly to reports and recommendations concerning individual intersections. One large study, however, which required considerable effort and thought was conducted in Fall River. This resulted in a report on the effect of mass transportation on traffic congestion in the business center. No small amount of aid has likewise been rendered in regard to intersectional design of Chapter 90 projects.

In addition, assistance, in respect to drafting and codifying of regulations, methods of coping with speed violations, restriction of the use of particular streets by certain vehicles and many other phases of control were likewise afforded by letter, by phone and by personal contacts.

The routine work of the Boston office increased rather than diminished. The volume of correspondence, both incoming and outgoing was greater than previous years. The number of permits issued to cities and towns also exceeded that of the preceeding year as evidenced by approvals granted for:

Through Way in Brookline.
Revision of 27 traffic signal permits.
14 new traffic signal installations
2 traffic beacons
221 isolated stop signs
317 traffic regulations including many new
and complete sets of rules, and
9 safety zones.

MONTHLY REPORTS TO STATE POLICE

With the idea of furthering selective enforcement

by the State Police, the policy of furnishing this Department with a complete analysis of state highway accidents has continued.

REPORTS TO OUTSIDE AGENCIES

Municipalities and safety organizations are frequently confronted by perplexing traffic problems on town ways and even state highways which run through centers. Mere visual investigation is insufficient to determine the causes. Accident analysis alone is the key to the problem. Such data have been provided to these agencies.

ANALYSIS OF STATE HIGHWAY ACCIDENT RECORDS

The Traffic Division continued its important function of analyzing accident records. This analysis reveals highway hazards and accident-prone locations, and from it are derived criteria for erection of signs, signals, and markings, and data for a basis of recommendations for highway improvements and redesign.

The following table indicates comparatively the accident picture for 1945 and 1946 on state highways:

<u>Year</u>	<u>Total Accidents</u>	<u>Persons Killed</u>
1945	3051	146
1946	<u>4608</u>	<u>162</u>
	1557	16

The increase in state highway accidents was 51.4%, and in number killed, 11.0%. On all roads in the state the increase was, in accidents 18.8%, and in number killed, 9.7%. Thus it is shown that on state highways, the rate of accident incidence was 32.6% greater than on all roads, and that of fatalities, 1.3% greater than on all roads.

Each month the Division prepared a summary of the state highway accidents for the Department of Public Safety, as well as for our own Department.

Continued was the work of plotting accidents by type, time of day, date, and location on large scale maps. From these maps information is drawn for incorporation in reports on signs, signals, markings, islands and design.

Other uses to which the accident analyses were put were in recommendations to cities and towns concerning both their own roads and state-owned roads. Also reported were facts for safety organizations and the Public Roads Administration, the latter in connection with Federal Highway Planning Reports.

HIGHWAY PLANNING 1947

The major accomplishment of this unit, in 1947, was the completion of the Metropolitan Boston Origin and Destination Survey. During the year, the analysis of nearly 2,000,000 trips by all modes of travel was completed and tables prepared. The Motor Vehicle Trips totaled 880,000. The results of this study have made it possible to plan a system of highways into, through, and around Boston and Metropolitan Boston which, it is deemed, will solve the highway problem in this area for many years to come. A report on this phase of the work is being prepared by a group of consultants and will be submitted December 1, 1947.

A complete Highway Planning Route Report is being prepared for approximately 1,000 miles on the major routes throughout the Commonwealth in connection with the ten-year program.

Project Reports have been prepared for twenty individual projects during the current year, describing the use made of each road; i.e., the average and peak volumes of

traffic, the frequency and weight of heavy loads, also the physical characteristics and condition of the highway such as the type and width of surface, frequency and extent of steep grades, sharp curves, and restricted sight distances. Recommendations were also made on the basis of future traffic needs for each project reported upon.

A revised log of the Primary Federal Aid System was prepared.

Routine work consisted of keeping up to date the traffic volume data collected from both the fixed and portable counters. Computing the various relationships such as seasonal and peak hour volumes in the various areas and volume trends compared with prewar traffic.

Local road mileage reports were collected from all cities and towns and tables prepared.

The annual statistics compiled consisted of analyzing and reporting on:

1. Motor Vehicle registrations and the collection and disposition of receipts.
2. Gasoline gallonage used for motor vehicles, the collection and disposition of receipts.
3. Motor Carrier receipts.
4. State Income and Expenses as regards highways.
5. State mileage constructed or reconstructed.

Numerous services, particularly as regards traffic, are constantly being furnished other public and many private agencies.

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MATERIALS TESTING LABORATORY

During the 25th year of its existence, the laboratory received for test approximately 2300 samples. Of these, 1200 were tested by the Bituminous Laboratory, 900 by the Concrete Laboratory, 150 by the Soils Laboratory, including extensive tests for the Logan Airport. Research was continued on freezing and thawing of concrete specimens and was facilitated by the recent installation of Refrigeration Equipment in the Cold Rooms and by the use of our new Sonic Materials Analyzer. Cooperative research with the Public Roads Administration, the State of New Jersey and the National Crushed Stone Association was carried out on the "Comparison between Limestone Filler and Trap Dust Filler" for use in Bituminous Concrete. Some investigations were conducted in the use of Anti-Stripping Compounds with various aggregates. Apparatus used in connection with the testing of cement and concrete was checked and approved by the Cement Reference Laboratory of the Bureau of Standards. Other new equipment recently purchased to bring this laboratory up-to-date included six Air-Yield Determinators for use in the field on Air-Entraining Concrete, a Ph meter for determining the acidity of loams, Autoclave apparatus to test the soundness of cement, and an additional Bituminous Concrete Extractor, together with an extension of our present fume hoods to accommodate this extractor.

- BRIDGES -

During this fiscal year the Department awarded contracts for 32 new structures; awarded contracts for alterations or repairs to 16 structures; examined and reported on 6 structures at the request of local authorities; made 4 reports at the request of Department authorities; examined plans for 2 structures under the provisions of Chapter 85, Section 35, General Laws; and made preliminary studies, estimates or plans for building, repairing or altering 89 structures in the near future.

The various cities and towns, the locations therein, and the character of the work follow:

CONTRACTS FOR NEW STRUCTURES

Beverly	Beverly By-Pass: one 57-foot span concrete rigid frame bridge over Cabot Street, and one 69-foot span concrete rigid frame bridge over Dodge Street.
Bridgewater	Hayward Street over Town River, one 38-foot span steel stringer bridge.
Dennis	Auto Route 28 over Swan Pond River, four 20-foot spans, concrete slab bridge on creosoted timber pile bents.
Douglas	Manchaug Street over Mumford River, one 45-foot span steel stringer bridge.
East Bridgewater	Spring Street over Matfield River, three 20-foot spans, concrete slab bridge on creosoted timber pile bents.
Fitchburg	Westminster Street over Phillips Brook, one 56-foot span, steel stringer bridge.
Fitchburg	River Street over Nashua River, two 46-foot spans, steel stringer bridge.
Framingham	Mount Wayte Avenue over tracks of New York, New Haven and Hartford Railroad, two 32-foot spans of concrete rigid frame and one 37-foot span steel stringer.
Framingham	Mount Wayte Avenue over Eames Brook, one 20-foot span concrete arch.
Great Barrington	South Main Street over Green River, one 80-foot span and two 25-foot approach spans, steel stringer bridge.

Greenfield	At Montague line over Connecticut River, Montague City Bridge; one 238-foot span steel truss; one 398-foot span steel truss, and two 60-foot steel stringer approach spans; total length 767 feet.
Hardwick	Main Street over Moose Brook, one 32-foot span concrete beam bridge.
Hardwick	Barre Road over brook, two 10-foot spans concrete box culvert.
Marshfield	Main Street over South River, one 27-foot span concrete beam bridge.
Newbury	Hay Street over Little River, four 17-foot spans, concrete slab bridge on creosoted timber pile bents.
North Reading	Washington Street over Ipswich River, one 35-foot span steel stringer bridge.
Northborough	At Westborough line, South Street over Assabet River, four 17-foot spans, concrete slab bridge on creosoted timber pile bents.
Pittsfield	West Housatonic Street over Housatonic River, two 37-foot spans steel stringer bridge.
Pittsfield	Barker Road over Housatonic River, one 40-foot span steel stringer bridge.
Rehoboth	Providence Street over Palmer River, one 26-foot span concrete beam bridge.
Rutland	East County Road over Ware River, one 25-foot span concrete beam bridge.
Sheffield	Great Barrington Road over a brook, one 10-foot span concrete box culvert.
Southbridge	Brickyard Road over Lebanon Brook, one 42-foot span steel stringer bridge.
Southwick	Congamond Road over Congamond Pond, one 14-foot span concrete box culvert.
Sterling	West Boylston Street over tracks of Boston and Maine Railroad, one 40-foot span steel stringer bridge.
Stow	Gleasondale Road over Assabet River, three 55-foot spans steel stringer bridge.

Sudbury	Boston Post Road over Parmenter's Brook, one 24-foot span concrete beam bridge.
Taunton	Weir Street over Mill River, one 35-foot span concrete beam bridge.
Westhampton	Main Road over Sodom Brook, one 17-foot span and two 13-foot spans, concrete slab bridge on creosoted timber pile bents.

CONTRACTS FOR ALTERATIONS OR REPAIRS TO
EXISTING STRUCTURES

Blackstone	Main Street over Blackstone Canal and over tracks of New York, New Haven and Hartford Railroad, repairs to deck and hangers.
Boston	Dorchester Avenue over Fort Point Channel, repairs to deck.
Chelmsford	Princeton Street over tracks of Boston and Maine Railroad, replacement of roadway deck.
Colrain	Auto Route 112 over North River, replacement of roadway deck.
Dedham	At Needham line over Charles River, raising stone masonry fence.
Dennis	At Yarmouth line over Bass River, repairs to concrete piles.
Fairhaven	At New Bedford line over Acushnet River, new traffic gates.
Fall River	At Somerset line, Slades Ferry Bridge, repairs to fender pier.
Fall River	At Somerset line, Slades Ferry Bridge, replacement of end lock on draw span.
Greenfield	Green River Bridge, new sidewalks and railings.
Holyoke	At South Hadley line over Connecticut River, repairs to sidewalk.
Lee	Pleasant Street over tracks of New York, New Haven and Hartford Railroad, new plank deck.
Leicester	Rochdale Bridge over French River, widening on both sides of bridge.

Milford	Depot Street over a brook, extension of the reinforced concrete box bridge.
Wareham	Agawam Road over Wareham River, repairs to concrete piles.
West Bridgewater	South Main Street over Town River, extension of existing arch.

EXAMINATIONS, REPORTS AND ESTIMATES AT
THE REQUEST OF LOCAL AUTHORITIES

Clinton	Duck Harbor Bridge over tracks of Boston and Maine Railroad.
Deerfield	Stillwater Bridge over Deerfield River.
Dennis	Upper County Bridge, sidewalks for fishermen.
Taunton	Weir Bridge over Taunton River.
Sheffield	Lower Covered Bridge over Housatonic River.
West Springfield	West Springfield's portion of the bridge over Connecticut River at Chicopee line.

EXAMINATIONS, REPORTS AND ESTIMATES AT
THE REQUEST OF THE DEPARTMENT

Rutland	East County Road over Ware River.
Winchester	Review of estimated cost for grade crossing elimination.
	Load transfer units at expansion joints in concrete pavements.
	Salvage of stone masonry at fort on Governor's Island

REVIEW OF PLANS UNDER PROVISIONS OF
CHAPTER 85, SECTION 35, GENERAL LAWS

Barnstable	Oyster Harbors Bridge.
Framingham	Main Street Bridge over Sudbury River.

CONTEMPLATED WORK

Adams	Commercial Street over Hoosic River.
Adams	Commercial Street over canal.
Alford	West Street over Seekonk River.
Bedford	At Carlisle line over Concord River.
Berlin	West Street over North Brook
Beverly	At Salem line, repairs to Essex Bridge.
Beverly	Three bridges on proposed Beverly By-Pass.
Blackstone	Bridge over Blackstone Canal and over tracks of New York, New Haven and Hartford Railroad.
Boston	Dorchester Avenue over Fort Point Channel, repairs.
Canton	Washington Street over Forge Pond.
Charlemont	Addis Bridge over Deerfield River.
Charlton	Depot Street over tracks of Boston and Albany Railroad.
Charlton	Four bridges on Southbridge Road.
Chesterfield	Main Road over Westfield River.
Chicopee	At West Springfield line over Connecticut River, repairs.
Clarksburg	Cross Road over Hudson Brook.
Danvers	Three new bridges on the Turnpike.
Dedham	Bridge Street over Charles River.
Deerfield	Stillwater Bridge over Deerfield River, repairs.
Erving	At Montague line, Millers Falls Bridge over Millers River.
Essex	Apple Street over Essex River.
Fairhaven	At New Bedford line over Acushnet River, repairs.

Fall River	At Somerset line, Brightman Street Bridge, repairs.
Fall River	Central Street Viaduct over tracks of New York, New Haven and Hartford Railroad, repairs.
Framingham	Irving Street over Beaver Dam Brook.
Gloucester	Washington Street over Goose Cove and over Bay View.
Gloucester	New road over Annisquam River.
Gloucester	Four grade separations on new road.
Grafton	Bridge Street over Quinsigamond River.
Great Barrington	Alford Road over a brook.
Groveland	At Haverhill line, Groveland Bridge over Merrimack River.
Hadley	At Northampton line over Connecticut River, Calvin Coolidge Bridge, repairs.
Hancock	Brodie Mountain Road over a brook.
Hinsdale	Maple Street over Housatonic River.
Holden	Reservoir Road over tracks of Boston and Maine Railroad.
Hubbardston	Worcester Road over Ware River.
Kingston	Main Street over Plymouth By-Pass.
Lawrence	Broadway over Spicket River.
Lenox	Three bridges on proposed by-pass.
Leominster	Main Street over Nashua River.
Medfield	At Sherborn line over Charles River, Deaths Bridge.
Middleborough	Four bridges on proposed by-pass.
Monroe	Main Road over Dunbar Brook.
Newburyport	At Salisbury line over Merrimack River, Newburyport Bridge, repairs.
Newburyport	Pedestrian bridge over Turnpike.

North Adams	Lower Union Bridge over Hoosic River.
North Adams	Upper Union Bridge over Hoosic River.
North Adams	Upper Beaver Bridge over Hoosic River.
Northampton	South Street over Clark Avenue and over tracks of New York, New Haven and Hartford Railroad.
Palmer	Main Street over Quaboag River.
Pittsfield	Wahconah Street over Housatonic River.
Plymouth	Auto Route 3 over Town Brook.
Plymouth	By-Pass over Samoset Street.
Quincy	At Weymouth line over Fore River, cover on draw machinery.
Revere	Revere Street over right-of-way of Narrow Gauge Railroad.
Scituate	Two bridges on Gannett Street.
Shrewsbury	At Worcester line over Lake Quinsigamond, repairs.
Southbridge	Mechanic Street over Quinebaug River.
Springfield	At West Springfield line, North End Bridge, repairs.
Springfield	At West Springfield line, Memorial Bridge, repairs.
Stow	Great Road over Assabet Brook.
Stow	Gleasondale Road over Assabet River.
Sudbury	At Wayland line over Sudbury River, Sherman Bridge, repairs.
Taunton	Winthrop Street over Mill River.
Taunton	Washington Street over Mill River.
Upton	Mendon Road over Center Brook.
Warwick	Orange Road over Orcutt Brook.
Wellfleet	Highway separation at Long Pond Road.
Wenham	Dodges Row over a brook.
Westfield	East Main Street over Little River.
Worcester.	James Street over tracks of Boston and Albany Railroad.

CONSTRUCTION OF TOWN AND COUNTY WAYS
(SECTION 34, CHAPTER 90, GENERAL LAWS, TER. ED.)

REPORT ON CHAPTER 90 ACTIVITIES FOR THE FISCAL YEAR
ENDING JUNE 30, 1947

The total amount appropriated for Chapter 90 activities for the fiscal year ending June 30, 1947, was \$2,864,000, the Legislature having made this amount available under Chapter 309 of the Acts of 1946, approved May 16, 1946.

During the year, the Department has contracted for work to be done in the towns and cities named in the attached table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns, cities and counties.

The attached table represents 592 contracts involving a value in excess of \$6,000,000. Approximately two-thirds of the value of work is being done by advertised or unit price contracts and the balance of the work by force account contract. The State's expenditures on this type of work for the fiscal year ending June 30, 1947, amounted to \$2,252,507.77.

CHAPTER 90 ALLOTMENTS 1946-1947 FISCAL YEAR

County	Tentative Dec. 1946	Actual July 1, 1946 June 30, 1947		Withdrawn and Reverted	Net Total Allot. July 1, 1946 June 30, 1947
Armstrong	\$ 97,500	\$ 102,100.00	R	\$ 820.65	\$ 101,279.35
Berkshire	220,850	248,250.00	R	21,284.58	226,965.42
Bristol	186,400	192,345.48	R	4,143.04	188,197.44
Cheshire	19,000	25,600.00	R	3,262.64	22,337.36
Essex	278,600	297,050.00	R	5,510.98	291,539.02
Franklin	86,250	79,500.00	R	2,108.84	77,391.16
Hampden	235,075	267,510.00	W R	(11,000.00 (1,460.15	255,049.85
Hampshire	144,175	147,775.00	R	1,875.22	145,899.78
Massachusetts	526,400	623,895.00	W R	(28,400.00 (55,789.87	539,725.13
Nantucket	12,000	12,000.00	R	374.95	11,625.05
Norfolk	162,800	154,675.00	R	10,791.09	143,883.91
Plymouth	204,400	224,907.46	R	1,464.54	223,442.92
Suffolk	100,000	100,000.00	R	1,027.86	98,972.14
Worcester	489,250	530,364.74	R	7,298.26	523,066.48
	\$2,762,700	\$3,005,972.68	W R	\$ 39,400.00 117,197.67	\$2,849,375.01

CONSTRUCTION OF TOWN AND COUNTY WAYS
(section 34, Chapter 90, General Laws, Tercentenary Edition)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns/cities and counties:

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)			
<u>Barnstable County</u>								
Barnstable	\$	4,500.00	\$	5,000.00	\$	4,000.00	Maintenance	10,927
Barnes		15,000.00		7,500.00		7,500.00	Grading and drainage	7,350
Brewster		1,500.00		750.00		750.00	Grading and drainage	1,850
Catham		6,000.00		3,000.00		3,000.00	Class F Bituminous Concrete	
Dennis		6,000.00		3,000.00		3,000.00	Bituminous road-mix	1,800
Dorset		2,000.00		2,000.00		2,000.00	Maintenance	2,300
Dorset		15,000.00		7,500.00		7,500.00	Bituminous road-mix	4,255
Dorset		12,000.00		6,000.00		6,000.00	Class I Bituminous Concrete	4,550
Dorset		750.00		750.00		750.00	Maintenance	3,400
Dorset		1,000.00		500.00		500.00	Bituminous road-mix	9,200
Dorset		500.00		500.00		500.00	Maintenance	1,200
Dorset		6,000.00		3,000.00		3,000.00	Bituminous road-mix	7,752
Dorset		6,000.00		3,000.00		3,000.00	Drainage	5,750
Dorset		5,500.00		3,000.00		2,500.00	Bituminous road-mix	1,554
Dorset		500.00		500.00		500.00	Maintenance	1,775
Dorset		500.00		250.00		250.00	Bituminous road-mix	1,500
Dorset		5,000.00		2,500.00		2,500.00	Repairs	800
Dorset		7,500.00		3,750.00		3,750.00	Bituminous road-mix	700
Dorset		12,300.00		6,150.00		6,150.00	Drainage	850
<u>Berkshire County</u>								
Danvers		400.00		400.00		400.00	Maintenance	4,400
Danvers		10,150.00		5,075.00		5,075.00	Bituminous concrete	2,200
Danvers		15,150.00		6,575.00		4,550.00	Bituminous concrete	1,260
Alford		2,400.00		1,200.00		1,200.00	Gravel	1,550
Alford		400.00		400.00		400.00	Maintenance	4,100
Becket		600.00		600.00		600.00	Maintenance	13,700
Becket		4,000.00		2,000.00		2,000.00	Gravel	2,550
Cheshire		4,000.00		2,000.00		2,000.00	Bituminous treated gravel	3,450
Clarksburg		500.00		500.00		500.00	Maintenance	2,200
Clarksburg		4,350.00		2,175.00		2,175.00	Gravel Bridge widen	8,000
Delton		2,500.00		1,250.00		1,250.00	Road repairs	5,800
Delton		1,200.00		600.00		600.00	Gravel	7,950
Agremont		500.00		500.00		500.00	Maintenance	2,900
Florida		7,000.00		3,500.00		3,500.00	Gravel	3,800
Florida		500.00		500.00		500.00	Maintenance	6,000
Florida		500.00		500.00		500.00	Maintenance	11,600
Great Barrington		1,500.00		1,500.00		1,500.00	Maintenance	
Great Barrington		13,500.00		6,750.00		6,750.00	Bituminous treated gravel	5,069
Hancock		1,000.00		500.00		500.00	Gravel	750
Hancock		400.00		400.00		400.00	Maintenance	5,500
Hancock		400.00		400.00		400.00	Maintenance	5,300
Hinsdale		2,000.00		1,000.00		1,000.00	Gravel	8,500

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length contracted for (Feet)
Berkshire County					
Amherst	\$ 8,700.00	\$ 4,350.00	\$ 4,350.00	Bridge	-
Amherst	500.00	500.00	500.00	Maintenance	9,000
Amherst-North Adams	300.00	-	300.00	Maintenance	7,950
Amherst	12,500.00	6,250.00	6,250.00	Bituminous treated gravel	3,044
Amherst	500.00	500.00	500.00	Maintenance	4,518
Amherst	500.00	500.00	500.00	Maintenance	3,500
Amherst	11,500.00	5,750.00	5,750.00	Bituminous treated gravel	2,475
Amherst	4,000.00	2,000.00	2,000.00	Gravel	2,000
Amherst	500.00	500.00	500.00	Maintenance	8,400
Amherst	500.00	500.00	500.00	Maintenance	10,800
Amherst	300.00	300.00	300.00	Maintenance	10,400
Amherst	300.00	300.00	300.00	Maintenance	5,400
Amherst	1,000.00	500.00	500.00	Gravel	2,000
Amherst	200.00	200.00	200.00	Maintenance	1,400
Amherst	4,000.00	2,000.00	2,000.00	Gravel	2,550
Amherst	1,500.00	1,500.00	1,500.00	Maintenance	35,100
Amherst	1,500.00	1,500.00	1,500.00	Maintenance	30,400
Amherst	17,400.00	8,700.00	8,700.00	Bituminous concrete and Bituminous macadam	4,689
Amherst	3,450.00	1,725.00	1,725.00	Class I Bituminous Concrete	1,300
Amherst	300.00	300.00	300.00	Maintenance	7,000
Amherst	300.00	300.00	300.00	Maintenance	2,500
Amherst	3,000.00	1,500.00	1,500.00	Gravel	1,600
Amherst	2,000.00	1,000.00	1,000.00	Gravel	1,250
Amherst	600.00	600.00	600.00	Maintenance	14,400
Amherst	22,250.00	11,125.00	11,125.00	Bridge and Approaches	-
Amherst	26,650.00	13,325.00	13,325.00	Class I Bituminous Concrete	3,246
Amherst	2,500.00	1,250.00	1,250.00	Gravel	2,000
Amherst	400.00	400.00	400.00	Maintenance	8,000
Amherst	400.00	400.00	400.00	Maintenance	9,000
Amherst	6,000.00	3,000.00	3,000.00	Gravel	3,800
Amherst	300.00	300.00	300.00	Maintenance	5,000
Amherst	300.00	300.00	300.00	Maintenance	7,300
Amherst	400.00	400.00	400.00	Maintenance	7,200
Amherst	400.00	400.00	400.00	Maintenance	4,050
Amherst	2,000.00	1,000.00	1,000.00	Gravel	953
Amherst	800.00	800.00	800.00	Maintenance	10,900
Amherst	700.00	700.00	700.00	Maintenance	7,600
Amherst	500.00	500.00	500.00	Maintenance	10,240
Amherst	13,400.00	6,700.00	6,700.00	Bituminous treated gravel	2,475
Amherst	4,000.00	2,000.00	2,000.00	Gravel	1,750
Amherst	300.00	300.00	300.00	Maintenance	5,600
Amherst	300.00	300.00	300.00	Maintenance	1,800
Amherst	2,000.00	1,000.00	1,000.00	Gravel	800
Amherst	500.00	500.00	500.00	Maintenance	6,300
Amherst	500.00	500.00	500.00	Maintenance	11,600
Amherst	600.00	600.00	600.00	Maintenance	8,850
Amherst	1,000.00	500.00	500.00	Gravel	700

State	Town	Contributions County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Berkshire County</u>				
	Stockbridge	\$ 1,000.00 \$ 500.00 \$ 500.00	Bridge widening and channel straightening -	
	Williamstown	500.00 500.00 500.00	Maintenance	7,500
	Williamstown	7,000.00 3,500.00 3,500.00	Bituminous treated gravel	5,956
	Windsor	3,200.00 1,600.00 1,600.00	Gravel	1,658
	Windsor	500.00 500.00 500.00	Maintenance	6,600
	Windsor	500.00 500.00 500.00	Maintenance	3,400
<u>Bristol County</u>				
	Agnet	500.00 500.00 500.00	Maintenance	23,909
	Attleboro	21,000.00 10,500.00 10,500.00	Class I Bituminous Concrete	2,450
	Attleboro	1,000.00 1,000.00 1,000.00	Maintenance	48,064
	Attleboro	21,000.00 13,000.00 8,000.00	Bituminous road-mix	6,935
	Barnstable	20,000.00 10,000.00 10,000.00	Class I Bituminous Concrete	2,080
	Barnstable	500.00 500.00 500.00	Maintenance	56,753
	Barnstable	7,000.00 3,500.00 3,500.00	Bituminous road-mix	2,075
	Barnstable	5,000.00 2,500.00 2,500.00	Bituminous treated gravel	1,050
	Barnstable	1,000.00 1,000.00 1,000.00	Maintenance	46,836
	Barnstable	700.00 700.00 700.00	Maintenance	29,975
	Black River	20,000.00 10,000.00 10,000.00	Bituminous macadam	1,800
	Barnstable	8,000.00 4,000.00 4,000.00	Grading	400
	Barnstable	1,000.00 1,000.00 1,000.00	Maintenance	62,801
	Barnstable	7,500.00 5,700.00 1,800.00	Bituminous macadam	910
	Bedford	10,000.00 5,000.00 5,000.00	Class I Bituminous Concrete	1,503
	Bedford	5,000.00 2,500.00 2,500.00	Class I Bituminous Concrete	850
	Bedford	9,000.00 4,500.00 4,500.00	Bituminous treated gravel	4,588
	Bedford	500.00 500.00 500.00	Maintenance	28,568
	Bedford	500.00 500.00 500.00	Maintenance	16,080
	Bedford	13,600.00 6,800.00 6,800.00	Bridge and approaches -	
	Bedford	1,000.00 1,000.00 1,000.00	Maintenance	87,242
	Bedford	500.00 500.00 500.00	Maintenance	27,515
	Bedford	17,500.00 8,750.00 8,750.00	Bridge Approaches - (bituminous concrete) -	
	Bedford	4,600.00 2,300.00 2,300.00	Bituminous road-mix	3,710
	Bedford	2,000.00 2,000.00 2,000.00	Maintenance	71,437
<u>Dukes County</u>				
	Edgartown	2,000.00 2,000.00 2,000.00	Maintenance	4,805
	Edgartown	1,500.00 1,500.00 1,500.00	Maintenance	29,734
	Edgartown	750.00 750.00 750.00	Maintenance	9,600
	Edgartown	461.00 461.00 461.00	Maintenance	8,040
	Edgartown	2,639.00 5,278.00 -	Maintenance	24,585
	Edgartown	11,000.00 5,500.00 5,500.00	Drainage and grading	4,313
	Edgartown	7,500.00 3,750.00 3,750.00	Bituminous road-mix	4,463
	Edgartown	1,500.00 1,500.00 1,500.00	Maintenance	12,394

Counties and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Dukes County</u>					
East Tisbury	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	Maintenance	14,100
West Tisbury	3,500.00	1,750.00	1,750.00	Bituminous road-mix	2,100
				Grading	2,100
<u>Essex County</u>					
Andover	8,500.00	4,250.00	4,250.00	Bituminous macadam	1,275
Andover	1,000.00	2,000.00	-	Maintenance	14,200
Andoverly	17,000.00	8,500.00	8,500.00	Bituminous macadam	2,280
Andover	3,000.00	1,500.00	1,500.00	Gravel	1,200
Andover	500.00	1,000.00	-	Maintenance	15,575
Andover	11,500.00	5,750.00	5,750.00	Drainage	4,584
				Class I Bituminous	
				Concrete	212
Andover	4,500.00	2,250.00	2,250.00	Bituminous macadam-	
				(widening)	845
				Bituminous road-mix	700
Andover	1,000.00	500.00	500.00	Bituminous macadam-	
				(widening)	1,050
Andover	8,000.00	4,000.00	4,000.00	Grading	2,196
				Bituminous road-mix	400
Andoverhill	21,000.00	10,500.00	10,500.00	Class I Bituminous	
				Concrete	2,050
Andover	7,500.00	3,750.00	3,750.00	Bituminous macadam	1,310
Andover	12,500.00	6,250.00	6,250.00	Bituminous macadam	1,700
				Concrete	x xxx
Andover	10,000.00	5,000.00	5,000.00	Class I Bituminous Conc.	3,485
Andover	8,500.00	4,250.00	4,250.00	Class I Bituminous Conc.	3,000
Andoverfield	6,000.00	3,000.00	3,000.00	Bituminous road-mix and	
				bituminous macadam	1,100
Andoverhead	10,000.00	5,000.00	5,000.00	Class I Bituminous	
				Concrete	1,360
Andover	3,000.00	1,500.00	1,500.00	Bituminous treated	
				gravel	450
Andover	12,000.00	6,000.00	6,000.00	Class I Bituminous	
				Concrete	1,415
Andover	7,400.00	3,700.00	3,700.00	Bituminous treated	
				gravel	2,350
Andover	5,250.00	2,625.00	2,625.00	Bituminous macadam	1,630
Andover	5,500.00	2,750.00	2,750.00	Stone masonry wall	395
Andover	11,000.00	5,500.00	5,500.00	Bridge and approaches	-
Andoverport	5,374.18	2,687.10	2,687.10	Class I Bituminous	
				Concrete	575
North Andover	9,000.00	4,500.00	4,500.00	Class I Bituminous	
				Concrete	828
North Andover	7,250.00	3,625.00	3,625.00	Class I Bituminous	
				Concrete	900
Andover	11,000.00	5,500.00	5,500.00	Bituminous macadam	2,083
Andoverport	5,000.00	2,500.00	2,500.00	Bituminous road-mix	1,470
Andover	4,000.00	2,000.00	2,000.00	Bituminous treated	
				gravel	1,610
Andover	300.00	600.00	-	Maintenance	22,939
Salem	15,000.00	7,500.00	7,500.00	Bituminous macadam	1,980
Salisbury	5,000.00	2,500.00	2,500.00	Bituminous macadam	1,060

Counties and Towns	State	Contributions	Town	County	Type of Road or Nature of Work	Length contracted for (Feet)
<u>Essex County</u>						
Agus	\$ 2,000.00	\$ 2,000.00	\$ 2,000.00		Bituminous treated gravel	750
Agus	10,500.00	5,250.00	5,250.00		Bituminous macadam	1,479
Amherst	10,000.00	5,000.00	5,000.00		Class I Bituminous Concrete	1,745
Amherst	6,000.00	3,000.00	3,000.00		Bituminous road-mix	1,750
Amherst	10,000.00	5,000.00	5,000.00		Bituminous treated gravel	2,000
Amherst Newbury	1,200.00	600.00	600.00		Bridge Repairs	-
<u>Franklin County</u>						
Amherst	2,000.00	1,000.00	1,000.00		Bituminous treated gravel	1,384
Amherst	500.00	500.00	500.00		Maintenance	39,502
Amherst	2,000.00	1,000.00	1,000.00		Stone masonry wall	-
Amherst					Gravel	500
Amherst	200.00	200.00	200.00		Maintenance	4,400
Amherst	500.00	500.00	500.00		Maintenance	18,015
Amherst	2,000.00	1,000.00	1,000.00		Bridge Repairs	-
Amherst	500.00	500.00	500.00		Maintenance	19,469
Amherst	2,000.00	1,000.00	1,000.00		Grading	1,200
Amherst	500.00	500.00	500.00		Maintenance	16,951
Amherst	3,000.00	2,000.00	1,000.00		Bituminous treated gravel	2,310
Amherst	500.00	500.00	500.00		Maintenance	11,600
Amherst	2,000.00	1,000.00	1,000.00		Gravel	900
Amherst	3,350.00	2,010.00	1,340.00		Bridge and approaches	-
Amherst	2,000.00	1,000.00	1,000.00		Gravel	1,350
Amherst	750.00	750.00	750.00		Maintenance	19,800
Amherst	7,000.00	6,000.00	1,000.00		Class I Bituminous Concrete	853
Amherst	2,000.00	1,000.00	1,000.00		Gravel	1,840
Amherst	500.00	500.00	500.00		Maintenance	16,100
Amherst	2,000.00	1,000.00	1,000.00		Gravel	1,350
Amherst	500.00	500.00	500.00		Maintenance	12,600
Amherst	2,000.00	1,000.00	1,000.00		Bridge and approaches	-
Amherst	500.00	500.00	500.00		Maintenance	7,500
Amherst	2,000.00	1,000.00	1,000.00		Bituminous treated gravel	1,031
Amherst	500.00	500.00	500.00		Maintenance	7,020
Amherst	2,000.00	1,000.00	1,000.00		Gravel	750
Amherst	350.00	350.00	350.00		Maintenance	17,550
Amherst	8,500.00	7,500.00	1,000.00		Class I Bituminous Concrete	1,279
Amherst	1,000.00	1,000.00	1,000.00		Maintenance	35,911
Amherst	2,000.00	1,000.00	1,000.00		Gravel	1,350
Amherst	450.00	450.00	450.00		Maintenance	7,600
Amherst	2,000.00	1,000.00	1,000.00		Bituminous treated gravel	1,350
Amherst	3,750.00	2,750.00	1,000.00		Gravel	800
Amherst	1,000.00	1,000.00	1,000.00		Maintenance	22,870
Amherst	2,500.00	1,500.00	1,000.00		Grading	1,000
Amherst	500.00	500.00	500.00		Maintenance	11,700
Amherst	2,000.00	1,000.00	1,000.00		Gravel	600
Amherst	500.00	500.00	500.00		Maintenance	9,000

City and Town State	Contributions Town County		Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Franklin County</u>				
Asbury	\$ 3,000.00	\$ 2,000.00	\$ 1,000.00	Bituminous treated gravel 3,100
Asbury	400.00	400.00	400.00	Maintenance 7,750
Asbury	2,000.00	1,000.00	1,000.00	Drainage 2,218
Asbury	500.00	500.00	500.00	Maintenance 8,000
Asbury	2,000.00	1,000.00	1,000.00	Gravel 650
Asbury	1,000.00	1,000.00	1,000.00	Maintenance 44,240
Asbury	3,000.00	2,000.00	1,000.00	Bituminous treated gravel 2,250
Asbury	500.00	500.00	500.00	Maintenance 14,422
<u>Garden County</u>				
Asbury	16,400.00	8,200.00	8,200.00	Bituminous macadam 4,350
Asbury	4,000.00	2,000.00	2,000.00	Gravel 2,300
Asbury	200.00	200.00	200.00	Maintenance 3,800
Asbury	800.00	800.00	800.00	Maintenance 10,750
Asbury	4,000.00	2,000.00	2,000.00	Grading 800
Asbury	4,200.00	2,100.00	2,100.00	Gravel 3,550
Asbury	500.00	500.00	500.00	Maintenance 2,800
Asbury	1,000.00	1,000.00	1,000.00	Maintenance 17,800
Asbury	7,000.00	3,500.00	3,500.00	Bituminous macadam 1,740
Asbury	1,000.00	1,000.00	1,000.00	Maintenance 19,335
Asbury	5,000.00	2,500.00	2,500.00	Gravel 3,354
Asbury	7,000.00	3,500.00	3,500.00	Bituminous macadam 2,700
Asbury	500.00	500.00	500.00	Maintenance 8,000
Asbury	500.00	500.00	500.00	Maintenance 10,100
Asbury	3,500.00	1,750.00	1,750.00	Bituminous road-mix 1,850
Asbury	600.00	300.00	300.00	Bituminous treated gravel 1,350
Asbury	500.00	500.00	500.00	Maintenance 9,300
Asbury	2,000.00	1,000.00	1,000.00	Bituminous road-mix 1,000
Asbury	15,000.00	7,500.00	7,500.00	Bituminous macadam 3,750
Asbury	1,000.00	1,000.00	1,000.00	Maintenance 16,450
Asbury	900.00	450.00	450.00	Bridge Repairs -
Asbury	4,000.00	2,000.00	2,000.00	Bituminous road-mix 1,300
Asbury	4,000.00	2,000.00	2,000.00	Bituminous road-mix 800
Asbury	4,000.00	1,000.00	2,000.00	Gravel 2,118
Asbury	300.00	300.00	300.00	Maintenance 5,250
Asbury	300.00	300.00	300.00	Maintenance 2,300
Asbury	17,000.00	8,500.00	8,500.00	Bituminous macadam 2,835
Asbury	1,000.00	1,000.00	1,000.00	Maintenance 71,133
Asbury	4,000.00	2,000.00	2,000.00	Gravel 3,800
Asbury	300.00	300.00	300.00	Maintenance 2,000
Asbury	5,000.00	2,500.00	2,500.00	Bituminous macadam 2,700
Asbury	500.00	500.00	500.00	Maintenance 10,000
Asbury	30,000.00	15,000.00	15,000.00	Class I Bituminous Concrete 3,280
Asbury	5,000.00	2,500.00	2,500.00	Bituminous treated gravel 2,642
Asbury	300.00	300.00	300.00	Maintenance 4,900
Asbury	2,000.00	1,000.00	1,000.00	Grading 611
Asbury	14,000.00	7,000.00	7,000.00	Bituminous macadam 3,515
Asbury	10,000.00	5,000.00	5,000.00	Bituminous macadam 1,307

Communities and Towns	State	Town	County	Contributions	Type of Road or Nature of Work	Length contracted for (Feet)		
<u>Hamden County</u>								
Abraham	\$	6,500.00	\$	3,250.00	\$	3,250.00	Bituminous macadam	1,600
Abraham		500.00		500.00		500.00	Maintenance	49,550
<u>Hampshire County</u>								
Amherst		12,500.00		6,250.00		6,250.00	Bituminous macadam	3,890
Amherst		1,000.00		1,000.00		1,000.00	Maintenance	24,493
Belchertown		500.00		500.00		500.00	Maintenance	5,300
Belchertown		500.00		500.00		500.00	Maintenance	2,400
Belchertown		7,000.00		3,500.00		3,500.00	Grading & drainage	3,600
Beverlyfield		2,000.00		1,000.00		1,000.00	Bituminous treated gravel	1,350
Beverlyfield		2,000.00		1,000.00		1,000.00	Bituminous treated gravel	1,300
Beverlyfield		700.00		700.00		700.00	Maintenance	12,288
Chamington		1,000.00		500.00		500.00	Bituminous treated gravel	550
Chamington		1,000.00		500.00		500.00	Bituminous treated gravel	700
Northampton		10,000.00		5,000.00		5,000.00	Bituminous macadam	2,782
Northampton		500.00		500.00		500.00	Maintenance	16,580
Northampton		2,000.00		1,000.00		1,000.00	Bituminous treated gravel	1,552
Northampton		500.00		500.00		500.00	Maintenance	10,710
Northampton		3,000.00		1,500.00		1,500.00	Bituminous road-mix	3,300
Northampton		1,000.00		500.00		500.00	Gravel	700
Northampton		300.00		300.00		300.00	Maintenance	16,330
Northampton		5,000.00		2,500.00		2,500.00	Bituminous road-mix	33,024
Northampton		500.00		500.00		500.00	Maintenance	33,020
Northampton		20,000.00		10,000.00		10,000.00	Bituminous macadam	2,665
Northampton		500.00		500.00		500.00	Maintenance	14,908
Northampton		4,000.00		2,000.00		2,000.00	Gravel	1,877
Northampton		500.00		500.00		500.00	Maintenance	5,400
Northampton		4,000.00		2,000.00		2,000.00	Gravel	1,550
Northampton		500.00		500.00		500.00	Maintenance	6,000
Northampton		25,450.00		12,725.00		12,725.00	Class I Bituminous Concrete	2,750
Northampton		4,000.00		1,000.00		2,000.00	Bituminous macadam-(widening)	4,500
Northampton		200.00		200.00		200.00	Maintenance	14,300
Northampton		2,000.00		1,000.00		1,000.00	Bituminous treated gravel	1,650
Northampton		250.00		250.00		250.00	Maintenance	4,200
Northampton		750.00		750.00		750.00	Maintenance	16,900
Northampton		1,000.00		500.00		500.00	Bituminous treated gravel	1,080
Northampton		200.00		200.00		200.00	Maintenance	5,300
Northampton		14,000.00		7,000.00		7,000.00	Bituminous macadam	1,660
Northampton		6,000.00		3,000.00		3,000.00	Gravel	3,576
Northampton		2,000.00		2,000.00		2,000.00	Drainage	-
Northampton		700.00		700.00		700.00	Maintenance	12,349
Northampton		6,550.00		2,800.00		3,050.00	Bridge & approaches	-
Northampton		700.00		700.00		700.00	Maintenance	15,500
Northampton		2,000.00		1,000.00		1,000.00	Gravel	1,350
Northampton		500.00		500.00		500.00	Maintenance	6,400

Towns and Townships State	Town	Contributions County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Shire County</u>				
ington	\$ 4,000.00	\$ 2,000.00	\$ 2,000.00 Gravel	1,300
ington	500.00	500.00	500.00 Maintenance	6,800
<u>Essex County</u>				
ington	6,000.00	3,000.00	3,000.00 Bituminous macadam	1,975
	29,000.00	14,500.00	14,500.00 Class I Bituminous Concrete	2,565
	2,000.00	1,000.00	2,000.00 Bituminous treated gravel	1,500
	2,000.00	1,000.00	2,000.00 Bituminous treated gravel	1,800
	5,000.00	2,500.00	2,500.00 Bituminous road-mix	2,000
	6,000.00	3,000.00	3,000.00 Class I Bituminous Concrete	2,000
	1,500.00	1,500.00	1,500.00 Maintenance	55,113
	4,000.00	2,000.00	2,000.00 Bridge	-
			Bituminous treated gravel	1,700
	21,500.00	10,750.00	10,750.00 Class I Bituminous Concrete	1,990
erica	6,000.00	3,000.00	3,000.00 Class I Bituminous Concrete	1,650
erica	2,500.00	2,500.00	2,500.00 Maintenance	101,864
rough	1,000.00	500.00	500.00 Grading	1,500
rough	1,000.00	500.00	500.00 Grading and drainage	675
rough	300.00	300.00	300.00 Maintenance	46,067
ington	6,000.00	3,000.00	3,000.00 Bituminous treated gravel	1,300
ridge	28,600.00	28,600.00	6,500.00 Class I Bituminous Concrete	12,094
isle	3,000.00	1,500.00	1,500.00 Bituminous treated gravel	660
sford	4,500.00	2,250.00	2,250.00 Class I Bituminous Concrete	1,200
sford	1,250.00	1,250.00	1,250.00 Maintenance	94,486
rd	1,000.00	1,000.00	1,000.00 Maintenance	83,741
ut	3,250.00	1,500.00	1,750.00 Bridge Repairs	-
table	3,500.00	-	3,500.00 Culvert and approaches	-
table	300.00	300.00	300.00 Maintenance	51,184
tt	16,000.00	8,000.00	8,000.00 Class I Bituminous Concrete	4,018
ingham	31,000.00	31,000.00	31,000.00 Class I Bituminous Concrete	4,034
ingham	1,500.00	1,500.00	1,500.00 Maintenance	100,907
ingham	500.00	500.00	500.00 Maintenance	100,907
on	7,000.00	3,500.00	3,500.00 Bituminous treated gravel	3,000
lston	2,000.00	1,000.00	1,000.00 Bituminous treated gravel	1,700
nton	6,000.00	3,000.00	3,000.00 Bituminous road-mix	2,600
nton	600.00	600.00	600.00 Maintenance	64,220
on	9,000.00	4,500.00	4,500.00 Grading & drainage	2,480
on	1,000.00	1,000.00	1,000.00 Maintenance	52,776
ington	5,000.00	5,000.00	5,000.00 Grading & drainage	1,920

City and Town State	Town	Contributions County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Suffolk County</u>				
Boston	\$ 1,500.00	\$ 1,500.00	\$ 1,500.00 Maintenance	72,611
Boston	500.00	500.00	500.00 Maintenance	72,611
Boston	3,000.00	2,000.00	2,000.00 Bituminous treated gravel	850
Boston	3,000.00	1,500.00	1,500.00 Bituminous treated gravel	2,000
Boston	500.00	500.00	500.00 Maintenance	65,548
Boston	20,000.00	10,000.00	10,000.00 Class I Bituminous Concrete	3,255
Boston	26,000.00	13,000.00	13,000.00 Class I Bituminous Concrete	3,150
Boston	1,000.00	1,000.00	1,000.00 Maintenance	39,222
Boston	12,000.00	12,000.00	12,000.00 Bituminous macadam	2,735
Boston	7,500.00	3,750.00	3,750.00 Class I Bituminous Concrete	1,607
Boston	12,000.00	12,000.00	12,000.00 Class I Bituminous Concrete	2,747
Boston	1,000.00	1,000.00	1,000.00 Maintenance	67,586
Boston	11,300.00	5,650.00	5,650.00 Class I Bituminous Concrete	1,500
Boston	25,000.00	12,500.00	12,500.00 Class I Bituminous Concrete	3,390
Reading	6,000.00	3,000.00	3,000.00 Bituminous treated gravel	2,800
Reading	400.00	400.00	400.00 Maintenance	46,725
Reading	6,000.00	3,000.00	3,000.00 Drainage	300
Reading			Bituminous treated gravel	760
Reading			Bituminous road-mix	1,500
Reading	5,000.00	2,500.00	2,500.00 Class I Bituminous Concrete	860
Reading	5,000.00	4,500.00	2,500.00 Penolithic pavement	650
Reading	500.00	500.00	500.00 Drainage	860
Reading	10,419.29	5,209.64	5,209.64 Maintenance	45,501
Reading			Bituminous macadam & bituminous road-mix	2,890
Reading	1,000.00	1,000.00	1,000.00 Maintenance	73,721
Reading	3,000.00	3,000.00	3,000.00 Bituminous treated gravel	3,000
Reading	16,000.00	8,000.00	8,000.00 Class I Bituminous Concrete	4,530
Reading	12,000.00	6,000.00	6,000.00 Class I Bituminous Concrete	2,765
Reading	4,000.00	2,000.00	2,000.00 Bituminous macadam	308
Reading	500.00	500.00	500.00 Maintenance	42,435
Reading	3,000.00	1,500.00	1,500.00 Bituminous treated gravel	2,000
Reading	6,000.00	3,000.00	3,000.00 Bituminous treated gravel	2,600
Reading	7,000.00	3,500.00	3,500.00 Bituminous treated gravel	3,500
Reading	5,000.00	2,500.00	2,500.00 Bituminous treated gravel	4,285
Reading	400.00	400.00	400.00 Maintenance	57,843

Towns and Towns State	Town	Contributions County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Middlesex County</u>				
Abington	\$ 2,000.00	\$ 1,000.00	\$ 2,000.00	Bituminous treated gravel 1,500
Attleboro	7,500.00	3,750.00	3,750.00	Class I Bituminous Concrete 1,750
Barnstable	25,000.00	12,500.00	12,500.00	Class I Bituminous Concrete 2,444
Barnstable	16,100.00	8,050.00	8,050.00	Class I Bituminous Concrete 2,444
Barnstable	16,000.00	8,000.00	8,000.00	Grading & drainage 4,300
Barnstable	1,000.00	1,000.00	1,000.00	Maintenance 58,207
Barnstable	4,000.00	2,000.00	2,000.00	Bituminous treated gravel 1,700
Barnstable	15,000.00	3,000.00	12,000.00	Bituminous macadam 1,730
Barnstable	1,000.00	1,000.00	1,000.00	Maintenance 54,532
Barnstable	14,800.00	14,800.00	14,800.00	Class I Bituminous Concrete 5,252
Barnstable	6,000.00	3,000.00	3,000.00	Class I Bituminous Concrete 3,840
Barnstable	9,000.00	4,500.00	4,500.00	Drainage & grading 700
<u>Nantucket County</u>				
Nantucket	15,000.00	15,000.00	-	Bituminous road-mix 4,008
Nantucket	2,000.00	2,000.00	-	Maintenance 26,036
<u>Norfolk County</u>				
Attleboro	5,350.00	3,210.00	2,140.00	Bituminous treated gravel 2,165
Attleboro	700.00	700.00	700.00	Maintenance 65,721
Attleboro	2,000.00	2,000.00	2,000.00	Class I Bituminous Concrete 650
Attleboro	2,300.00	2,300.00	-	Bituminous treated gravel 725
Attleboro	500.00	500.00	500.00	Maintenance 19,441
Attleboro	18,000.00	18,000.00	-	Sheet asphaltic concrete 2,255
Attleboro	1,000.00	1,000.00	1,000.00	Maintenance 44,998
Attleboro	5,500.00	5,500.00	-	Class I Bituminous Concrete 665
Attleboro	1,000.00	1,000.00	1,000.00	Maintenance 47,772
Attleboro	15,350.00	7,675.00	7,675.00	Bituminous road-mix 4,815
Attleboro	2,000.00	2,000.00	-	Bituminous treated gravel 800
Attleboro	1,500.00	1,500.00	1,500.00	Maintenance 64,525
Attleboro	6,000.00	6,000.00	-	Bituminous road-mix 2,050
Attleboro	2,000.00	2,000.00	2,000.00	Maintenance 105,666
Attleboro	1,000.00	1,000.00	1,000.00	Maintenance 30,628
Attleboro	700.00	700.00	700.00	Maintenance 36,431
Attleboro	6,875.00	3,437.50	3,437.50	Bituminous macadam 1,400
Attleboro	700.00	700.00	700.00	Maintenance 68,146
Attleboro	700.00	700.00	700.00	Maintenance 67,731
Attleboro	700.00	700.00	700.00	Maintenance 13,046
Attleboro	1,000.00	1,000.00	1,000.00	Maintenance 42,488
Attleboro	1,000.00	1,000.00	1,000.00	Maintenance 62,528

Cities and Towns	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Norfolk County</u>					
Wood	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	Culvert and appurtenances	-
Winville	500.00	500.00	500.00	Maintenance	25,135
Wolph	1,000.00	1,000.00	1,000.00	Maintenance	39,376
Wolph	500.00	500.00	500.00	Maintenance	39,376
Wron	3,500.00	1,750.00	1,750.00	Bituminous treated gravel	4,500
Wron	3,500.00	3,500.00	-	Bituminous treated gravel	1,850
Wron	1,000.00	1,000.00	1,000.00	Maintenance	53,750
Wron	1,000.00	1,000.00	1,000.00	Maintenance	53,750
Wighton	8,000.00	8,000.00	-	Bituminous road-mix	2,750
Wighton	500.00	500.00	500.00	Maintenance	32,582
Wighton	500.00	500.00	500.00	Maintenance	35,332
Wole	5,300.00	5,300.00	-	Bituminous treated gravel	1,183
Wole	1,000.00	1,000.00	1,000.00	Maintenance	64,057
Wesley	23,000.00	11,150.00	11,150.00	Bituminous macadam	2,691
Wewood	1,000.00	1,000.00	1,000.00	Maintenance	46,772
Wewood	500.00	500.00	500.00	Maintenance	52,072
Wmouth	20,000.00	20,000.00	-	Class I Bituminous Concrete	1,900
Watham	5,000.00	5,000.00	-	Bituminous treated gravel	2,150
Watham	1,000.00	1,000.00	1,000.00	Maintenance	49,647
<u>Plymouth County</u>					
Wington	5,000.00	2,500.00	2,500.00	Class I Bituminous Concrete	1,350
Widgewater	16,200.00	7,500.00	10,700.00	Bridge and approaches	-
Wickton	10,000.00	10,000.00	-	Class I Bituminous Concrete	2,291
Wickton	7,400.00	7,400.00	-	Class I Bituminous Concrete	1,700
Wickton	15,000.00	15,000.00	-	Class I Bituminous Concrete	3,250
Wver	1,000.00	-	1,000.00	Culvert and approaches	-
Wver	5,000.00	2,500.00	2,500.00	Bituminous road-mix	4,613
Wbury	4,000.00	2,000.00	2,000.00	Grading and Drainage	5,065
Wbury	1,500.00	1,500.00	1,500.00	Maintenance	12,550
Wt Bridgewater	12,000.00	6,000.00	6,000.00	Bridge and approaches	-
Wt Bridgewater	1,000.00	1,000.00	1,000.00	Maintenance	16,315
Wifax	12,000.00	5,000.00	8,500.00	Grading	3,572
Wover	1,053.73	513.43	526.86	Bridge	-
Wover	3,000.00	3,000.00	3,000.00	Maintenance	7,135
Wover	3,000.00	3,000.00	3,000.00	Maintenance	6,282
Wason	10,000.00	5,000.00	5,000.00	Bituminous road-mix	2,600
				Grading	205
Wigham	7,800.00	3,900.00	3,900.00	Class I Bituminous Concrete	975
Wll	7,500.00	3,750.00	3,750.00	Class I Bituminous Concrete	1,000
Wngston	4,600.00	2,300.00	2,300.00	Drainage and grading	1,890
Wngston	7,400.00	3,700.00	3,700.00	Grading	3,300

Towns and Townships State		Contributions County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Plymouth County</u>				
Acushnet	\$ 4,000.00	\$ 2,000.00	\$ 2,000.00	Bituminous road-mix 1,985
Acushnet	6,700.00	3,350.00	3,350.00	Bituminous road-mix - (widening) 4,171
Acushnet	6,000.00	3,000.00	3,000.00	Bituminous road-mix 2,568
Acushnet	5,000.00	3,250.00	2,500.00	Bituminous road-mix 3,807
Acushnet	1,000.00	1,000.00	1,000.00	Maintenance 4,272
Acushnet	5,000.00	2,500.00	2,500.00	Grading 5,500
Acushnet	2,000.00	2,000.00	2,000.00	Maintenance 7,880
Acushnet	2,000.00	2,000.00	2,000.00	Maintenance 28,005
Acushnet	1,053.73	513.43	526.87	Bridge -
Acushnet	1,000.00	1,000.00	1,000.00	Culvert Repair -
Acushnet	6,000.00	3,000.00	3,000.00	Bituminous road-mix 2,809
Acushnet	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete 3,975
Acushnet	2,000.00	1,000.00	2,000.00	Bituminous road-mix 7,000
Acushnet	2,000.00	1,000.00	1,000.00	Bituminous road-mix 2,500
Acushnet	10,000.00	5,000.00	5,000.00	Class I Bituminous Concrete 1,555
Acushnet	20,000.00	10,000.00	10,000.00	Class I Bituminous Concrete 2,012
Acushnet	5,000.00	2,500.00	2,500.00	Class I Bituminous Concrete 1,035
Acushnet	1,500.00	1,500.00	1,500.00	Maintenance 9,624
Acushnet	1,500.00	1,500.00	1,500.00	Maintenance 19,843
Acushnet	6,000.00	3,000.00	3,000.00	Class I Bituminous Concrete 1,325
<u>Essex County</u>				
Acushnet	45,000.00	81,000.00	-	Sheet asphaltic concrete 3,695
Acushnet	50,000.00	50,000.00	-	Sheet asphaltic concrete 5,504
Acushnet	16,500.00	13,500.00	-	Bituminous macadam 3,265
<u>Worcester County</u>				
Acushnet	2,000.00	1,000.00	1,000.00	Bituminous road-mix 1,000
Acushnet	4,000.00	2,000.00	2,000.00	Drainage -
Acushnet	800.00	800.00	800.00	Maintenance 48,480
Acushnet	7,600.00	3,800.00	3,800.00	Bituminous treated gravel 3,150
Acushnet	1,200.00	1,200.00	1,200.00	Maintenance 67,326
Acushnet	7,000.00	3,500.00	3,500.00	Drainage & bituminous concrete & bituminous macadam patching 3,142
Acushnet	500.00	500.00	500.00	Maintenance 24,432
Acushnet	500.00	500.00	500.00	Maintenance 24,432
Acushnet	12,000.00	6,000.00	6,000.00	Bituminous macadam 2,078
Acushnet	250.00	250.00	250.00	Bridge Repairs -
Acushnet	1,000.00	1,000.00	1,000.00	Maintenance 54,433
Acushnet	600.00	300.00	300.00	Bituminous treatment 900
Acushnet	5,900.00	850.00	2,250.00	Bituminous macadam 900
Acushnet	800.00	800.00	800.00	Maintenance 58,810
Acushnet	6,000.00	3,000.00	3,000.00	Bituminous road-mix 1,950
Acushnet	1,000.00	1,000.00	1,000.00	Maintenance 65,925

Towns and State	Contributions Town County		Type of Road or Nature of Work	Length con- tracted for (Feet)
Winchester County				
Winchester	\$ 4,000.00	\$ 1,000.00	\$ 3,000.00	Grading 850
Winchester	6,750.00	1,500.00	3,750.00	Grading 2,950
Winchester	2,300.00	2,300.00	2,300.00	Maintenance 60,457
Winchester	6,000.00	3,000.00	3,000.00	Bituminous road-mix 1,682
Winchester	500.00	500.00	500.00	Maintenance 56,244
Winchester	2,500.00	1,250.00	1,250.00	Bituminous road-mix 1,150
Winchester	500.00	250.00	250.00	Bituminous road-mix 1,300
Winchester	600.00	600.00	600.00	Maintenance 3,090
Winchester	500.00	500.00	500.00	Maintenance 31,385
Winchester	6,000.00	3,000.00	3,000.00	Bituminous road-mix 2,550
Winchester	500.00	500.00	500.00	Maintenance 65,625
Winchester	14,000.00	7,000.00	7,000.00	Bituminous macadam 2,300
Winchester	1,500.00	1,500.00	1,500.00	Maintenance 52,942
Winchester	800.00	800.00	800.00	Maintenance 45,998
Winchester	550.00	550.00	550.00	Maintenance 48,273
Winchester	2,000.00	1,000.00	1,000.00	Bituminous road-mix 800
Winchester	400.00	400.00	400.00	Maintenance 35,773
Winchester	600.00	600.00	600.00	Maintenance 35,173
Winchester	11,250.00	5,625.00	5,625.00	Class I Bituminous Concrete 3,331
Winchester	15,750.00	7,875.00	7,875.00	Class I Bituminous Concrete 2,514
Winchester	8,800.00	4,400.00	4,400.00	Bituminous treated gravel 1,890
Winchester	5,000.00	2,500.00	2,500.00	Bituminous road-mix 1,600
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 40,438
Winchester	4,600.00	2,300.00	2,300.00	Bridge & approaches -
Winchester	800.00	800.00	800.00	Maintenance 48,831
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 80,082
Winchester	7,494.00	3,747.00	3,747.00	Bituminous road-mix 1,650
Winchester	1,506.00	753.00	753.00	Drainage -
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 60,064
Winchester	4,000.00	2,000.00	4,000.00	Grading 635
Winchester	1,300.00	1,300.00	1,300.00	Maintenance 82,625
Winchester	2,000.00	1,000.00	1,000.00	Class I Bituminous Concrete 390
Winchester	250.00	250.00	250.00	Maintenance 17,940
Winchester	7,900.00	3,950.00	3,950.00	Bridge widening-approaches (grading) -
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 55,676
Winchester	17,500.00	8,750.00	8,750.00	Class I Bituminous Concrete 2,182
Winchester	7,490.00	3,745.00	3,745.00	Bituminous road-mix 1,700
Winchester	800.00	800.00	800.00	Maintenance 57,978
Winchester	4,000.00	2,000.00	2,000.00	Bituminous road-mix 1,500
Winchester	650.00	650.00	650.00	Maintenance 53,149
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 56,271
Winchester	1,250.00	625.00	625.00	Bituminous treated gravel 5,800
Winchester	12,000.00	6,000.00	6,000.00	Bridge widening-bituminous macadam 2,177
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 58,289
Winchester	1,000.00	1,000.00	1,000.00	Maintenance 52,489
Winchester	10,000.00	5,000.00	5,000.00	Grading & drainage 3,426

ities and Towns State	Town	Contributions County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Worcester County</u>				
Albury	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	Maintenance 37,634
Avon	400.00	400.00	400.00	Maintenance 17,907
Braintree	2,500.00	1,000.00	2,500.00	Bituminous road-mix 850
Braintree	2,000.00	1,000.00	1,000.00	Bituminous road-mix 400
Braintree	1,500.00	1,500.00	1,500.00	Maintenance 56,638
Brookfield	300.00	300.00	300.00	Maintenance 20,392
Brookfield	4,500.00	2,250.00	2,250.00	Bituminous road-mix 1,000
Brookfield	2,000.00	2,000.00	2,000.00	Maintenance 50,809
Brookfield	5,000.00	2,500.00	2,500.00	Bituminous road-mix 2,600
Brookfield	4,500.00	2,250.00	2,250.00	Bituminous road-mix 1,700
				Grading 300
Brookfield	750.00	750.00	750.00	Maintenance 38,271
Brookfield	350.00	350.00	350.00	Maintenance 38,271
Chatham	4,000.00	2,000.00	2,000.00	Bituminous road-mix 1,500
Chatham	500.00	500.00	500.00	Maintenance 14,725
Chatham	1,000.00	1,000.00	1,000.00	Maintenance 60,283
Chatham	4,000.00	2,000.00	2,000.00	Bituminous road-mix 2,550
Ford	1,000.00	1,000.00	1,000.00	Maintenance 45,179
Ford	700.00	700.00	700.00	Maintenance 43,479
Ford	1,000.00	1,000.00	1,000.00	Maintenance 48,700
Millipston	4,600.00	1,150.00	2,300.00	Grading 1,850
Millipston	1,000.00	1,000.00	1,000.00	Maintenance 61,069
Needham	3,500.00	1,750.00	1,750.00	Bituminous road-mix 1,350
Needham	2,400.00	1,200.00	1,200.00	Bituminous road-mix 1,288
Needham	1,800.00	1,800.00	1,800.00	Maintenance 118,098
Needham	1,000.00	500.00	500.00	Grading 400
Needham	1,100.00	1,100.00	1,100.00	Maintenance 64,592
Needham	4,000.00	2,000.00	2,000.00	Bituminous road-mix 2,000
Needham	1,300.00	1,300.00	1,300.00	Maintenance 74,665
Needham	14,000.00	7,000.00	7,000.00	Bridge & approaches- (bituminous treated gravel) 450
Needham	700.00	700.00	700.00	Bituminous macadam 1,500
Needham	2,400.00	1,200.00	1,200.00	Maintenance 43,196
Needham	6,800.00	3,400.00	3,400.00	Bituminous macadam 500
Needham	5,200.00	2,600.00	2,600.00	Bituminous road-mix 1,850
				Bridge & approaches- (bituminous treated gravel) -
Needham	900.00	900.00	900.00	Maintenance 41,041
Needham	9,000.00	4,500.00	4,500.00	Class I Bituminous Concrete 1,183
Needham	750.00	750.00	750.00	Maintenance 51,113
Needham	4,000.00	2,000.00	2,000.00	Bituminous road-mix 1,850
Needham	1,500.00	1,500.00	1,500.00	Maintenance 107,573
Needham	3,000.00	1,500.00	1,500.00	Grading 1,200
Needham	4,000.00	2,000.00	2,000.00	Bituminous road-mix 1,950
Needham	500.00	500.00	500.00	Maintenance 28,400
Needham	350.00	350.00	350.00	Maintenance 30,350
Needham	1,000.00	1,000.00	1,000.00	Maintenance 67,289
Needham	6,000.00	3,000.00	3,000.00	Bituminous road-mix 2,775
Needham	1,000.00	1,000.00	1,000.00	Maintenance 68,968
Needham	4,000.00	2,000.00	2,000.00	Bituminous road-mix 1,700
Needham	700.00	700.00	700.00	Maintenance 39,883

Towns and Townships	State	Contributions Town	County	Type of Road or Nature of Work	Length con- tracted for (Feet)
<u>Greene County</u>					
Adge	\$ 7,490.00	\$ 3,745.00	\$ 3,745.00	Bituminous road-mix	3,400
Adge	7,490.00	3,745.00	3,745.00	Bituminous road-mix	2,834
Adge	2,000.00	2,000.00	2,000.00	Maintenance	69,964
Adge	1,900.00	1,900.00	1,900.00	Maintenance	69,964
Ben	4,000.00	2,000.00	2,000.00	Bituminous road-mix	1,450
Ben	400.00	400.00	400.00	Maintenance	21,157
Greene	11,090.00	5,545.00	5,545.00	Bituminous road-mix	3,500
Greene	1,000.00	500.00	500.00	Class I Bituminous Concrete	568
Greene	2,910.00	1,455.00	1,455.00	Class I Bituminous Concrete	1,450
Greene	600.00	600.00	600.00	Maintenance	22,306
Borough	10,000.00	5,000.00	5,000.00	Grading and drainage	3,040
Borough	700.00	700.00	700.00	Maintenance	62,089
Borough	1,000.00	1,000.00	1,000.00	Maintenance	62,089
Boylston	9,000.00	4,500.00	4,500.00	Bituminous road-mix and drainage	1,396
Boylston	1,000.00	1,000.00	1,000.00	Maintenance	54,720
Brookfield	500.00	500.00	500.00	Bridge Repairs	-
Brookfield	900.00	900.00	900.00	Maintenance	50,083
Brookfield	1,500.00	1,500.00	1,500.00	Maintenance	50,083
Minster	5,500.00	2,750.00	2,750.00	Bituminous road-mix	1,750
Minster	1,500.00	1,500.00	1,500.00	Maintenance	77,141
Shandon	7,000.00	3,500.00	3,500.00	Bituminous road-mix	3,050
Shandon	500.00	500.00	500.00	Maintenance	24,419
Greene	26,000.00	13,000.00	13,000.00	Class I Bituminous Concrete	2,549
Greene	24,000.00	12,000.00	12,000.00	Class I Bituminous Concrete	3,500
Greene	22,000.00	11,000.00	11,000.00	Class I Bituminous Concrete	2,595

**REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS,
IN CERTAIN TOWNS**

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, Tercentenary
Edition, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns, including the amount which may be used for snow removal (under the provisions of Chapter 523 of the Acts of 1946).

Counties and Towns	Miles of Road	State	Allotment Town	Maximum Amount for Snow Removal (included in total)
<u>Barnstable County</u>				
Brewster	38	\$ 8,550.00	\$ 4,750.00	\$ 950.00
Dennis	80	18,000.00	10,000.00	2,000.00
Dorset	43	9,675.00	3,225.00	1,075.00
Mashpee	26	5,850.00	2,600.00	650.00
Sandwich	67	15,075.00	6,700.00	1,675.00
Truro	30	6,750.00	3,750.00	750.00
Wellfleet	38	8,550.00	4,750.00	950.00
<u>Berkshire County</u>				
Alford	18	4,050.00	720.00	450.00
Becket	60	13,500.00	2,400.00	1,500.00
Cheshire	43	9,675.00	3,225.00	1,075.00
Clarksburg	14	3,150.00	2,100.00	350.00
Agremont	34	7,650.00	2,550.00	850.00
Florida	44	9,900.00	3,300.00	1,100.00
Hancock	28	6,300.00	1,400.00	700.00
Kingsdale	37	8,325.00	2,775.00	925.00
Lanesborough	44	9,900.00	3,300.00	1,100.00
Monterey	51	11,475.00	2,040.00	1,275.00
Mount Washington	20	4,500.00	500.00	500.00
New Ashford	11	2,475.00	275.00	275.00
New Marlborough	87	19,575.00	3,480.00	2,175.00
Otis	42	9,450.00	1,680.00	1,050.00
Peru	37	8,325.00	555.00	925.00
Richmond	34	7,650.00	2,550.00	850.00
Sandisfield	84	18,900.00	1,260.00	2,100.00
Savoy	57	12,825.00	855.00	1,425.00
Sheffield	79	17,775.00	3,950.00	1,975.00
Tyringham	25	5,625.00	1,250.00	625.00
Washington	52	11,700.00	780.00	1,300.00
West Stockbridge	34	7,650.00	3,400.00	850.00
Windsor	65	14,625.00	975.00	1,625.00
<u>Bristol County</u>				
Berkley	42	9,450.00	3,150.00	1,050.00
Dighton	46	10,350.00	6,900.00	1,150.00
Freetown	46	10,350.00	3,450.00	1,150.00
Norton	58	13,050.00	5,800.00	1,450.00
Raynham	46	10,350.00	4,600.00	1,150.00
Rehoboth	110	24,750.00	8,250.00	2,750.00
Swansea	64	14,400.00	9,600.00	1,600.00

Counties and Towns	Miles of Road	State	Allotment Town	Maximum Amount for Snow Removal (included in total)
<u>Dukes County</u>				
Chilmark	14	\$ 3,150.00	\$ 1,750.00	\$ 350.00
West Tisbury	14	3,150.00	1,750.00	350.00
<u>Essex County</u>				
Boxford	55	12,375.00	2,750.00	1,375.00
Essex	25	5,625.00	3,750.00	625.00
Georgetown	35	7,875.00	4,375.00	875.00
Groveland	29	6,525.00	3,625.00	725.00
Merrimac	32	7,200.00	4,800.00	800.00
Middleton	32	7,200.00	4,800.00	800.00
Newbury	42	9,450.00	5,250.00	1,050.00
Rowley	32	7,200.00	4,000.00	800.00
Topsfield	39	8,775.00	5,850.00	975.00
West Newbury	40	9,000.00	4,000.00	1,000.00
<u>Franklin County</u>				
Ashfield	80	18,000.00	3,200.00	2,000.00
Barnardston	40	9,000.00	3,000.00	1,000.00
Duckland	46	10,350.00	6,900.00	1,150.00
Charlemont	47	10,575.00	2,350.00	1,175.00
Colrain	85	19,125.00	4,250.00	2,125.00
Conway	71	15,975.00	2,840.00	1,775.00
Deerfield	75	16,875.00	9,375.00	1,875.00
Mill	34	7,650.00	2,550.00	850.00
Hawley	49	11,025.00	735.00	1,225.00
Heath	54	12,150.00	810.00	1,350.00
Leverett	34	7,650.00	1,360.00	850.00
Leyden	39	8,775.00	585.00	975.00
Monroe	18	4,050.00	2,250.00	450.00
New Salem	37	8,325.00	555.00	925.00
Northfield	65	14,625.00	4,875.00	1,625.00
Orange	78	17,550.00	11,700.00	1,950.00
Rowe	40	9,000.00	1,600.00	1,000.00
Shelburne	49	11,025.00	7,350.00	1,225.00
Shutesbury	35	7,875.00	875.00	875.00
Sunderland	35	7,875.00	3,500.00	875.00
Warwick	56	12,600.00	840.00	1,400.00
Wendell	48	10,800.00	720.00	1,200.00
Whately	40	9,000.00	3,000.00	1,000.00
<u>Hampden County</u>				
Blandford	74	16,650.00	1,850.00	1,850.00
Brimfield	63	14,175.00	2,520.00	1,575.00
Chester	68	15,300.00	3,400.00	1,700.00
Granville	73	16,425.00	5,475.00	1,825.00
Hampden	34	7,650.00	2,550.00	850.00
Holland	32	7,200.00	480.00	800.00
Monson	103	23,175.00	7,725.00	2,575.00
Montgomery	28	6,300.00	700.00	700.00
Southwick	51	11,475.00	6,375.00	1,275.00
Tolland	40	9,000.00	1,000.00	1,000.00

Counties and Towns	Miles of Road	State	Allotment Town	Maximum Amount for Snow Removal (included in total)
<u>Hamden County</u>				
Vales	24	\$ 5,400.00	\$ 960.00	\$ 600.00
Wilbraham	46	10,350.00	6,900.00	1,150.00
<u>Hampshire County</u>				
Belchertown	103	23,175.00	4,120.00	2,575.00
Chesterfield	58	13,050.00	1,450.00	1,450.00
Cumington	49	11,025.00	1,225.00	1,225.00
Goshen	29	6,525.00	1,160.00	725.00
Granby	49	11,025.00	2,450.00	1,225.00
Hadley	58	13,050.00	7,250.00	1,450.00
Hatfield	50	11,250.00	7,500.00	1,250.00
Huntington	38	8,550.00	2,850.00	950.00
Middlefield	41	9,225.00	615.00	1,025.00
Pelham	20	4,500.00	2,000.00	500.00
Plainfield	48	10,800.00	720.00	1,200.00
Southampton	56	12,600.00	2,800.00	1,400.00
Westhampton	46	10,350.00	690.00	1,150.00
Williamsburg	42	9,450.00	3,150.00	1,050.00
Worthington	68	15,300.00	1,700.00	1,700.00
<u>Middlesex County</u>				
Acton	57	12,825.00	8,550.00	1,425.00
Ashby	58	13,050.00	2,900.00	1,450.00
Ashland	40	9,000.00	6,000.00	1,000.00
Bedford	42	9,450.00	6,300.00	1,050.00
Boxborough	23	5,175.00	920.00	575.00
Burlington	41	9,225.00	6,150.00	1,025.00
Carlisle	41	9,225.00	3,075.00	1,025.00
Dracut	73	16,425.00	10,950.00	1,825.00
Dunstable	37	8,325.00	925.00	925.00
Groton	74	16,650.00	11,100.00	1,850.00
Holliston	51	11,475.00	7,650.00	1,275.00
Hopkinton	67	15,075.00	8,375.00	1,675.00
Littleton	41	9,225.00	6,150.00	1,025.00
North Reading	37	8,325.00	5,550.00	925.00
Pepperell	69	15,525.00	6,900.00	1,725.00
Sherborn	43	9,675.00	6,450.00	1,075.00
Shirley	45	10,125.00	5,625.00	1,125.00
Stow	42	9,450.00	3,150.00	1,050.00
Sudbury	62	13,950.00	9,300.00	1,550.00
Tewksbury	65	14,625.00	9,750.00	1,625.00
Townsend	71	15,975.00	5,325.00	1,775.00
Tyngsborough	41	9,225.00	4,100.00	1,025.00
Westford	81	18,225.00	10,125.00	2,025.00
<u>Norfolk County</u>				
Bellingham	49	11,025.00	6,125.00	1,225.00
Medfield	41	9,225.00	6,150.00	1,025.00
Medway	45	10,125.00	6,750.00	1,125.00
Millis	42	9,450.00	6,300.00	1,050.00
Norfolk	41	9,225.00	4,100.00	1,025.00
Plainville	32	7,200.00	4,000.00	800.00

Counties and Towns	Miles of Road	State	Allotment Town	Maximum Amount for Snow Removal (included in total)
<u>Plymouth County</u>				
Carver	65	\$14,625.00	\$ 6,500.00	\$1,625.00
Halifax	36	8,100.00	3,600.00	900.00
Hanson	37	8,325.00	5,550.00	925.00
Lakeville	42	9,450.00	4,200.00	1,050.00
Norwell	47	10,575.00	5,875.00	1,175.00
Pembroke	48	10,800.00	7,200.00	1,200.00
Plympton	31	6,975.00	2,325.00	775.00
Rochester	51	11,475.00	3,825.00	1,275.00
<u>Worcester County</u>				
Ashburnham	77	17,325.00	5,775.00	1,925.00
Barre	98	22,050.00	7,350.00	2,450.00
Berlin	40	9,000.00	3,000.00	1,000.00
Blackstone	36	8,100.00	5,400.00	900.00
Bolton	52	11,700.00	2,600.00	1,300.00
Boylston	33	7,425.00	2,475.00	825.00
Brookfield	35	7,875.00	3,500.00	875.00
Charlton	110	24,750.00	5,500.00	2,750.00
Douglas	71	15,975.00	5,325.00	1,775.00
Dudley	65	14,625.00	9,750.00	1,625.00
East Brookfield	19	4,275.00	2,375.00	475.00
Grafton	71	15,975.00	10,650.00	1,775.00
Hardwick	84	18,900.00	4,200.00	2,100.00
Harvard	57	12,825.00	5,700.00	1,425.00
Holden	79	17,775.00	9,875.00	1,975.00
Hubbardston	76	17,100.00	1,900.00	1,900.00
Lancaster	51	11,475.00	6,375.00	1,275.00
Leicester	68	15,300.00	8,500.00	1,700.00
Lunenburg	72	16,200.00	5,400.00	1,800.00
Mendon	36	8,100.00	3,600.00	900.00
Millville	17	3,825.00	2,125.00	425.00
New Braintree	51	11,475.00	1,275.00	1,275.00
North Brookfield	68	15,300.00	6,800.00	1,700.00
Northborough	48	10,800.00	6,000.00	1,200.00
Oakham	44	9,900.00	1,100.00	1,100.00
Oxford	66	14,850.00	8,250.00	1,650.00
Paxton	28	6,300.00	2,800.00	700.00
Petersham	66	14,850.00	3,300.00	1,650.00
Phillipston	44	9,900.00	660.00	1,100.00
Princeton	73	16,425.00	2,920.00	1,825.00
Royalston	74	16,650.00	1,850.00	1,850.00
Rutland	60	13,500.00	4,500.00	1,500.00
Southborough	47	10,575.00	7,050.00	1,175.00
Spencer	100	22,500.00	12,500.00	2,500.00
Sterling	72	16,200.00	5,400.00	1,800.00
Sturbridge	72	16,200.00	5,400.00	1,800.00
Sutton	86	19,350.00	6,450.00	2,150.00
Templeton	63	14,175.00	7,875.00	1,575.00
Upton	59	13,275.00	4,425.00	1,475.00
Warren	69	15,525.00	6,900.00	1,725.00
West Boylston	37	8,325.00	5,550.00	925.00
West Brookfield	52	11,700.00	3,900.00	1,300.00
Westborough	63	14,175.00	9,450.00	1,575.00
Westminster	80	18,000.00	6,000.00	2,000.00

General maintenance, including repairs to road surfaces, maintenance of shoulders and slopes, cleaning ditches and drainage structures, repairs to fences and guard rail, moving grassed areas and clearing roadsides was carried out by maintenance forces during the year.

Surface treatments were applied to about 270 miles of State highway surface during the year. Most of these were applied by maintenance forces with the notable exception in Middleboro-Rochester-Wareham-Marion where a surface treatment was applied under contract on Routes 28 and 6.

A number of maintenance betterment jobs were done with maintenance forces. These included shoulder hardening and widening jobs on sections of the Boston-Worcester Turnpike in Shrewsbury and Westboro, on Route 3 in Billerica, Burlington and Woburn, on Route 110 in Merrimac and Haverhill, on Riverside Drive in Lawrence and Methuen and on Route 28 in Middleboro and Bridgewater. Other betterments including drainage alterations and improvements, curb installations and replacing of wooden guard rail with more modern types were made in various locations throughout the state.

SNOW REMOVAL

Snow removal on State highways was carried out under authority of Section 19, Chapter 81 of the General Laws, as amended.

During the 1947 fiscal year the Department plowed and sanded 1862 miles of State highways.

Snow removal on town roads was carried out under authority of Section 11, Chapter 54 of the General Laws and during the fiscal year the Department cooperated on 444 miles of highways. Under this Act, the highways selected were plowed in cooperation with the towns, and part of the cost was borne by local agencies.

Due to the age and condition of our four wheel driven snow removal units, fifty percent of which were over 10 years old, it was necessary to use an increased number of hired trucks to augment our own equipment.

Late in the winter a series of heavy snow storms in Berkshire County caused many town roads to become blocked and some of our heavy equipment from other districts was sent to aid the towns in this area.

ROADSIDE DEVELOPMENT

The Roadside Development program completed during 1947 was as follows: On Route 3 in the towns of Billerica, Lowell and Chelmsford 500 trees were planted along the highway. These trees were elms, oaks and maples. In the town of Falmouth on Route 28 rose bushes were planted. The Committee on trees in the town assisted in this work.

Along Route C-1 the slope at Breeds hill, East Boston was terraced and drainage was installed and sod placed over the surface to control erosion. This slope was also planted with trees and shrubs.

spraying the shade trees along state highways presented a problem in that the Dutch Elm disease is now prevalent in Massachusetts. A problem was set up to treat the elm trees with DDT. Two applications were applied, a 2% solution in May and a 6% solution in July, with blower type equipment. This type of spraying, using DDT and this equipment, appears to be more effective and economical than previous methods.

CHAPTER 81

Under Chapter 81, Sections 26-29 of the General Laws, as amended by Chapter 366, Acts of 1934, and Chapter 689, Acts of 1945, 180 towns with a total of 9140 miles of public ways participated in this program during the calendar year ending December 31, 1946. The allotments under this program were included in the budget for the fiscal year ending June 30, 1946.

During the calendar year ending December 31, 1947 under these acts and including the amendment of Chapter 523, Acts of 1946, 180 towns with a total of 9144 miles of public ways will have participated in this program. The allotments totaling \$2,057,400 under this program were included in the budget for the fiscal year ending June 30, 1947.

Chapter 523 of the Acts of 1946, which became effective September 12, 1946, permitted reimbursement by the State of Chapter 81 towns for snow removal expenditures up to \$25.00 per mile, and the towns are given the option of spending this sum on either snow removal or general maintenance. There have been very few expenditures for Snow Removal under the provisions of this act to date.

CAPITAL OUTLAY

With an allotment of \$400,000 made available by appropriation and \$34,709 earned through depreciation the Department continued the replacement of obsolete and worn out equipment. Most of the money available was allocated to replacement of passenger cars, pickup trucks and maintained dump trucks, leaving only a small amount of money for machinery and additional equipment.

Unit costs of motor vehicles increased considerably and we were therefore able to purchase fewer units than originally anticipated. Also delivery of equipment was delayed due to conditions in the industry and it was necessary to keep old equipment running beyond the time when normal replacement would be made.

BRIDGE MAINTENANCE AND OPERATION

Considerable maintenance work was done during this fiscal year on the 3088 bridges under the responsibility of the Department, either in whole or in part. Of this number of bridges there are included 15 drawbridges on which there is a total personnel of 80 men.

On the fixed bridges the maintenance work has consisted principally of cleaning and painting steel, repairing and replacing timber bridge decks, repairing concrete in curbs, slabs and abutments, replacing disintegrated concrete curbs with granite and repairing bridge fences. The principal maintenance items on the drawbridges have been repairs to machinery and electrical controls, repairs to decks, repairs to fender piers and painting.

A tabulation of the total number of draw openings of the drawbridges during the year is listed below:

Fall River - Brightman Street Bridge	838
Fall River - Slades Ferry Bridge	1694
New Bedford Bridge	1077
Quincy - Fore River Bridge	402
Newburyport - Salisbury Bridge	82
Seituate Marshfield Bridge (hand operated)	6
Braintree " "	6
Boston - Dorchester Ave. Bridge	518
Boston - Granite Ave. Bridge	242
Lynn-Saugus-Fox Hill Bridge	940
Beverly-Salem, Essex Bridge	321
Gloucester Blynman Bridge	5620
Haverhill-Groveland Bridge	8
Cambridge - First Street Bridge	1197
Cambridge - Commercial Ave. Bridge	1106

Contract repairs were undertaken on several bridges. A list of these contracts with a brief description of the work follows:

New Bedford Drawbridge	- Install new traffic gates
Edgartown - Oak Bluffs	- Repairs to sub-structure and painting.
Somerville - Northern Artery	Painting Steel
Pitchburg - Route 12	" "
Tyngsboro " 113	" "
Harwich " 28	" "
Bourne " 28	" "
Lakeville " 18	" "
Boston - Beacon Street over R. R.	" "
Boston - Beacon Street over Muddy River	" "
Boston - Brookline Ave. over R. R.	" "
Gloucester Drawbridge	" "
Beverly-Salem Route 1-A	New concrete, curbs and misc. repairs
Holyoke-South Hadley - Route 202	Concrete Repairs to sidewalk.

A bridge maintenance gang consisting of 4 to 8 men operate in each district and many more repairs were made by these gangs as they became necessary. The painting of small bridges and all other necessary repair work which was not of sufficient size to warrant the preparation of a contract was performed by these men.

REPORT ON THE ACTIVITIES OF THE DEPARTMENT RELATING TO WATERWAYS
FOR THE PERIOD July 1, 1946 to June 30, 1947.

The Division of Waterways has supervision and care of the public lands of the Commonwealth not assigned to any other department, the prevention of encroachments in tide waters, great ponds and, in a limited way, in the fresh water streams. It is authorized to spend such funds as may be appropriated in the improvement and development of rivers, streams and harbors and the protection of the shores.

The Division administers the State piers at Bourne, New Bedford and Plymouth and has limited responsibilities over the State Fish Pier at Gloucester.

It has charge of the Province Lands at Provincetown.

Since 1941 the Division has been responsible for the development and construction of the General Edward Lawrence Logan Airport on the Commonwealth flats in East Boston.

That part of this report containing recommendations for legislation was filed in December, 1946 (H.84) and consisted of (1) authority to sell alcoholic beverages at state-owned airports, which did not pass, and (2) requesting the further sum of 25 million dollars for continuing the development of the Airport which, in the reduced amount of 12 million dollars, became Chapter 676 of 1947 (approved July 1, 1947) and (H. 110) requesting that Chapter 665 of 1945, authorizing the construction of a state pier in Fall River, be extended to June 30, 1948, which became Chapter 308 of 1947.

The continued development of the airport was the principal task of the year. The extension, grading and surfacing of the runways and taxiways, designed by the Highway Project Engineer and constructed under the supervision of the Highway Construction Engineer, the runway lighting, filling and grading of back areas were undertaken and much of it completed.

Additions to the Gloucester Fish Pier were authorized by Chapter 653 of 1945. Bids were called for but the bids exceeded the funds provided therein (\$250,000),

and \$350,000 was authorized by Chapters 663 and 670 of the Acts of 1947 (approved June 30, 1947). The lease was extended to September 30, 1969. The agreement with the lessee that it would repay the cost of this work in equal installments over a period of 20 years is under negotiation. Plans for this work were prepared by Messrs. Fay, Spofford and Thorndike and are ready to advertise when the agreement is signed.

HARBOR FACILITIES IN NEW BEDFORD

This work was authorized by Chapter 673 of 1945 (\$250,000) and continued by Chapter 536 of 1946 (\$500,000). Two hundred thousand dollars of this amount was appropriated under Chapter 606 of 1946 and \$200,000 under Chapter 670 of 1947. The State Pier, steel shed, has been renovated and greatly improved. A new pile platform with concrete deck surrounding the property bought from the New York, New Haven and Hartford Railroad is under construction and filling is being placed in the south dock and back of the new platform. This work will provide two new berths and a large open area for handling lumber and other commodities.

IMPROVEMENT OF FALL RIVER HARBOR

The construction of a state pier in Fall River was authorized by Chapter 665 of 1945 at a cost not to exceed \$1,500,000, but the act does not become operative until a suitable lease is signed which will repay to the Commonwealth 60 per cent of the cost over a period of 20 years. Many conferences have been held with the New York, New Haven and Hartford Railroad in regard to the purchase of the railroad pier and with the Fall River Line Pier, Inc., in regard to leasing the structure when built, but no documents have as yet been approved. The first annual report was filed (H. 110- 1947).

OTHER WORK

The Division has entered into many contracts for river and harbor improvement and coastal protection. These projects are greatly desired by the coastal cities

and towns and the work could be extended considerably if additional funds could be provided.

Full descriptions and details of all of these projects with lists of contracts will be found in the following pages.

The Director has continued to serve as a member of the State Reclamation Board (G.L. Chapter 252), the State Planning Board, the United States Beach Erosion Board and the New England Flood Control Committee, and has attended many meetings and inspection trips.

The last committee is endeavoring to revive and adjust the interstate compacts agreed to by the states in 1937, but not approved by the Congress, to the new Federal Flood Control plan. These statutes, all in 1937, are as follows:

For Connecticut River - Chapters 402, 397, 441, 446

For Merrimack River - Chapters 403, 423, 442, 446.

Respectfully submitted,

Richard K Hale

Director.

GENERAL EDWARD LAWRENCE LOGAN AIRPORT

EAST BOSTON

LEGISLATION

No additional bond issues were authorized, during the period covered by this report, for the expansion of the General Edward Lawrence Logan Airport.

The legislative acts for the improvement of the airport which have been enacted to date are:

- | | | |
|-------------------------------|------------------|-------------------|
| 1. Chapter 695, Acts of 1941- | Bonds authorized | \$2,000,000. |
| 2. Chapter 528, Acts of 1943- | Bonds authorized | 4,750,000. |
| 3. Chapter 383, Acts of 1945- | Bonds authorized | 15,000,000. |
| 4. Chapter 595, Acts of 1946- | Bonds authorized | <u>6,000,000.</u> |

Total Bonds Authorized, \$27,750,000.

A report as of April 1, 1947 was submitted to the Legislative Committee on Aeronautics, estimating that an additional appropriation of approximately \$24,500,000. would be required over the next three years to adequately enlarge terminal facilities at the airport. In this report a detailed study was made of the existing facilities, with costs, and a year to year plan of facilities required in the immediate future. The Committee was given an estimate of maintenance costs and expected revenues covering the years during construction, and an estimate of the future revenues needed to cover operations and retire the improvement costs over a period of years. A detailed schedule of required expenditures over a three-year period was outlined in order to acquaint the Legislature with the reasons for future appropriations. As a result of this report, Chapter 676 of the Acts of 1947 was enacted, authorizing a bond issue of \$12,000,000. This act was approved on July 1, 1947.

GENERAL PROJECT FOR EXPANSION

The expansion, development and improvement of the General Edward Lawrence Logan Airport is based on a master plan which was developed after a study of the potential air traffic for this international airport. This master plan provides for the

maximum development of the airport and permits expansion by stage construction as more facilities are required. By following the plan, the Commonwealth can keep pace with the growth of aviation without overbuilding.

The construction projects undertaken during the present fiscal year have followed the master plan with minor modifications.

STATUS OF AIRPORT DEVELOPMENT AS OF JUNE 30, 1947

Runways

Runways "A" and "B" with permanent surfacing, and runway "C" with a temporary surface, each 7,000 feet long and 300 feet wide, were completed except for the permanent lighting, which is under contract and is expected to be completed in September, 1948. The pavement on a fourth runway (Parallel "C"), also 7,000 feet in length, is under construction. The Federal Government, through the Civil Aeronautics Administration, built the base course on a portion of this runway. In addition the basic fill, obtained from the removal of Governors Island, is being placed so as to extend runway Parallel "C" for a distance of 2,000 feet.

Navigational Aids

The construction of the timber walkway for the approach light lane system was completed, and runway "C" was equipped with an Instrument Landing System installed and maintained by Civil Aeronautics Administration.

Passenger Terminals

Additions have been completed to the Temporary Terminal Building to provide space for two airlines and the National Shawmut Bank.

The following airlines are now furnished with office and counter space in this terminal building:

1. American Airlines, Inc.
2. Eastern Air Lines, Inc.
3. New England Central Airways System, Inc.
4. Northeast Airlines, Inc.
5. Transcontinental and Western Air, Inc.
6. United Air Lines, Inc.
7. Davis Airways, Inc.

Part of the Administration Building was occupied by Trans-Canada Airlines who also provided space for United States Customs and Immigration and Pan-American World Airways. The balance of this building was being used for offices, weather observation and reporting, mail, cargo and a restaurant.

The National Guard Building was used in part by the following airlines engaged in international operations as temporary headquarters:

1. American Overseas Airlines, Inc.
2. Pan American World Airways
3. Transcontinental and Western Air, Inc.
4. Northeast Airlines, Inc.

Conferences have been held with officers of the Massachusetts National Guard, the Massachusetts Aeronautics Commission, and the International Airlines to discuss suitable and enlarged spaces necessary for the increasing operations of International Airlines.

These buildings also afforded space for revenue producing concessionaires.

Hangar Areas

The basic fill and grading of material excavated from Governors Island has been completed in the north hangar area. This fill has been placed to approximately grade 14. A contract is being prepared to construct the base course of the pavement, drainage and water service in this area.

The hangar lots in this vicinity are two hundred feet deep and are laid out in two parallel lines, each of which can be developed to a length of approximately 1,500 feet, and are to be separated by 725 feet of paved apron and taxiway area.

The first of the airlines hangars is being erected in this area by the Northeast Airlines.

The American Airlines was given a permit to build a hangar on South Bulkhead Road. This is the second large hangar to be built at the airport since the expansion program has been in progress, the first being the Eastern Airlines hangar.

The Department has constructed an apron and installed utility services to this new hangar.

United Air Lines Temporary Office Building

The United Air Lines, Inc. has built a temporary operations building on a lot leased from the Department on Airport Road East.

Recreational Areas

Studies have been made in accordance with legislative authorization of the proposed beach and playground to be constructed in substitution for the taking of Wood Island Park and Aserina Park on Porter Street.

As a preliminary step on this project, 40,000 cubic yards of basic fill was purchased and graded over a small portion of the area for the proposed beach location.

Consulting Services

The design, preparation of plans and specifications and supervision of construction of the water supply system has been awarded under a contract to consulting engineers.

A contract has been awarded for similar work on the sewers and drains for the airport.

The design, plans and specifications for additional runway lighting is progressing under another consulting engineer.

Permanent Terminal Building

Plans and specifications for the permanent terminal building, which are being prepared under the supervision of the Massachusetts Public Building Commission, are nearly completed. The first contract will cover the foundations of the apron building only and a later contract will cover the superstructure.

Crash Facilities

The Department was successful in acquiring two (2) type 155 Army Crash Trucks from the War Assets Administration. The reconditioning and overhaul work on these trucks was completed and they were in operation on December 1, 1946.

BUREAU OF AIRPORT MANAGEMENT

Chapter 582, Acts of 1946, Section 5, reads "The Commissioner of Public Works shall establish a bureau for the maintenance and operation of the General Edward Lawrence Logan Airport. The maintenance and operation of said airport shall be in charge of an airport manager to be appointed by said commissioner. Said manager shall be qualified in general management experience and aeronautical knowledge, shall be exempt from chapter thirty-one and shall receive such salary as the said commissioner, with the approval of the governor and council, may fix." This act was approved on June 14, 1946.

On November 29, 1946, Commissioner Joseph F. Cairnes officially created the Bureau of Airport Management in the Department of Public Works, and appointed an Acting Airport Manager.

On April 23, 1947, shortly after Commissioner William H. Buracker took office he appointed Vincent K. Cates of Melrose, Airport Manager, at an annual salary of \$5,100., as approved by the Governor and Council.

Steps were then taken to improve the personnel set-up, by planning and building up a suitable organization to handle a project of this size and nature.

Appropriation for Maintenance and Operation

The legislature provided the following funds for personal services and other expenses of operating the Logan Airport:

Chapter 309, Acts of 1946, Item 2230-01	\$200,000.00
Chapter 309, Section 7, For Salary Increases	<u>44,820.00</u>
Total appropriation	\$244,820.00

This appropriation was expended in the following manner:

Personal Services	\$159,989.91
Expenses	<u>74,830.09</u>
Total expenditure	\$244,820.00

Revenue

The revenue from airport activities during the present fiscal year has almost tripled that of the previous year. The table below shows an increase of \$127,607.00 in receipts in 1947 over those of 1946.

Receipts

	<u>1946</u>	<u>1947</u>
Landing Fees		
Scheduled Flights)		\$66,173.40
Non-Scheduled Flights)	\$27,675.00	3,823.68
Private Flights)		963.00
Rentals and Concessions	36,976.67	111,437.41
Admission Fees	<u>1,829.42</u>	<u>11,890.60</u>
Total Receipts	\$66,681.09	\$194,288.09

Summary of Commercial Air Line Activity at the
General Edward Lawrence Logan Airport for the Fiscal Year 1947.

P L A N E S				P A S S E N G E R S			M A I L (Pounds)			E X P R E S S (Pounds)		
Month	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
1946 July	2279	2287	4566	44810	44010	88820	77518	87026	164544	179511	261588	441099
August	2484	2512	4996	50813	51332	102145	86475	93297	179772	218517	279513	498030
September	2286	2304	4590	48951	49782	98733	69389	74083	143472	475993	470632	946625
October	2403	2435	4838	45946	46054	92000	95027	97765	192792	495573	838893	1334466
November	2101	2140	4241	39670	40772	80442	90729	93712	184441	286135	469220	755355
December	2126	2113	4239	37352	38098	75450	123140	136430	259570	425150	678260	1103410
1947												
January	1653	1645	3298	24694	24282	48976	80331	94932	175262	195385	339670	535055
February	1810	1800	3610	27308	26993	54301	86513	99332	185845	243695	365572	609267
March	2181	2177	4358	37008	37474	75481	92719	109817	202536	306058	497510	803568
April	2092	2092	4184	47609	41819	89428	92778	103228	196006	252575	465599	718174
May	1902	1918	3820	35091	34333	69424	83715	103187	186902	239146	470008	709154
June	2417	2411	4828	36390	35762	72152	97420	103006	200426	312728	489180	801908
Totals	25734	25834	51568	476641	470711	947352	1075744	1195815	2271559	3630466	5625645	9256111
1946)												
Fiscal)	20145	20136	40281	372719	365725	738444	1579744	1657169	3236913	1433311	1775773	3209084
Year)												
Totals)												
Increase)												
of 1947)	5589	5698	11287	103922	104986	208908	-504000	-461354	-965354	2197155	3849872	6047027
over 1946)												
Per Cent)												
Increase)	27.7%	28.3%	28.0%	27.9%	28.7%	28.3%	-31.9%	-27.8%	-29.8%	153.3%	216.8%	188.4%

It is to be noted that there was an increase of approximately 28% in the total number of commercial air line plane landings and takeoffs and a similar increase in the total number of passengers that used their facilities in the 1947 fiscal year over that of the previous year.

An unexpected decrease of 30% in the mail handled occurred in 1947.

A most encouraging feature was the increase in express cargo handled. The present year shows an increase of approximately 188% over that handled in 1946.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS AND IN FORCE DURING THE YEAR ENDING
JUNE 30, 1947 COVERING WORK AT THE GENERAL EDWARD LAWRENCE LOGAN AIRPORT, EAST BOSTON

<u>CONTRACT NO.</u>	<u>WORK</u>	<u>CONTRACTOR</u>	<u>DATE</u>	<u>CONDITION OF WORK</u> <u>Completed</u>	<u>CONTRACT COST</u>
847	Construction of access road and temporary runways and grading for permanent runways at the General Logan Airport, East Boston	B. Farini and Sons, Inc.	Aug 20 1945	Completed Jan 28 1946	\$1,618,239.69
895	Construction of two obstruction light/shelters at Governors Island at General Logan Airport.	Joseph S. Curcio	May 24 1946	Completed Jul 9 1946	\$838.00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS AND IN FORCE DURING THE YEAR ENDING JUNE 30, 1947
COVERING WORK AT THE GENERAL EDWARD LAWRENCE LOGAN AIRPORT, EAST BOSTON.

Contract No.	Work	Contractor	Date	Condition of Work	Contract Cost
830	Consulting services on runway construction	William L. Shamon	May 2, 1945	Not completed	
837	Consulting services re runway embankments	Arthur Casagrande	June 26, 1945	Not completed	
841	Constructing Temporary Terminal Building	Marsen Construction Co.Inc.	July 14, 1945	Completed Nov. 14, 1946	\$ 183,004.81
844	Wash borings	Raymond Concrete Pile Co.	July 31, 1945	Completed Sept. 1, 1945	1,584.59
848	Taxiway Resurfacing	B. Perini & Sons, Inc.	Sept. 11, 1945	Completed Sept. 1, 1946	101,892.01
852	Main drain between Porter and Prescott Streets	C. & R. Construction Co.	Dec. 4, 1945	Completed Nov. 9, 1946	248,980.31
853	Consulting services on runway drainage	Howard Williams	Sept. 18, 1945	Completed Dec. 1, 1946	1,375.00
868	Architectural services Temporary Terminal Building	Charles G. Loring	Oct. 27, 1945	Not completed	
873	Gravel, etc., Runways A, B and part of C	M. DeMatteo Construction Company	Feb. 12, 1946	Completed Dec. 21, 1946	3,179,459.47
876	Consulting services re electrical work	Eugene Groden	Jan. 29, 1946	Completed Sept. 30, 1946	17,300.00
879	Paving runways A and B	B. Perini & Sons, Inc.	Apr. 10, 1946	Completed Dec. 1, 1946	1,722,357.93
890	Temporary lighting on taxiways	Kenworthy & Taylor, Inc.	May 7, 1946	Completed June 23, 1947	45,580.45
894	Concrete curbing at Temporary Terminal Building	Martin J. Kelly Co. Inc.	May 24, 1946	Completed July 15, 1946	1,358.56
897	Dredging - Cottage Park Yacht Club area	Bay State Dredging & Contracting Company	July 16, 1946	Completed Sept. 20, 1946	27,203.40

Contract No.	Work	Contractor	Date	Condition of Work	Contract Cost
898	Dredging - Winthrop Yacht Club area	Bay State Dredging & Contracting Company	July 16, 1946	Completed Oct. 31, 1946	27,217.08
901	Placing fill at Hangar Sites	B. Perini & Sons, Inc.	July 3, 1946	Not completed	
906	Construction of timber walkway for Approach Light Lane System	Blakeslee Hollins Corp.	July 16, 1946	Completed March 14, 1947	48,204.60
909	Installing runway lighting on runways A,B,C and associated taxiways	William E. Gens & Son, Inc.	March 26, 1947	Not completed	
910	Professional services in connection with terminal charges	Herbert A. Morgan	July 11, 1946	Completed Dec. 2, 1946	6,000.00
915	Railroad track repairs	McCortney & Moncrief	Aug. 27, 1946	Completed Sep. 30, 1946	2,022.20
920	Completing East Bulkhead Taxiway C and Taxiway Fingers	M. DeMatteo Construction Company	Aug. 27, 1946	Completed Jan. 2, 1947	249,943.26
921	Painting Immigration Offices at National Guard Building	Russell E. McCassey	Sept. 18, 1946	Completed Oct. 26, 1946	516.00
924	Professional services in connection with negotiating leases with airlines	Herman Carp	July 23, 1946	Completed Nov. 29, 1946	2,200.00
925	Professional services in connection with negotiating leases with airlines	William J. Wallace	July 23, 1946	Completed Aug. 27, 1946	400.00
930	Alterations and additions to Temporary Terminal Building and the Administration Building	Grande & Sons, Inc.	Oct. 2, 1946	Not completed	
933	Conditioning two fire trucks for airport use	Clarence Farrar	Oct. 1, 1946	Completed Dec. 18, 1946	4,975.00
939	Weatherstripping doors and windows of Temporary Terminal Building	Chamberlin Co. of America	Nov. 21, 1946	Completed June 26, 1947	2,375.00

Contract No.	Work	Contractor	Date	Status	Amount
942	Paving area adjacent to American Airlines Hangar	J. F. White Contracting Company	Nov. 21, 1946	Completed April 29, 1947	26,830.65
943	Consulting services for design of water supply system	Coffin & Richardson, Inc.	Sept. 25, 1946	Not completed	
950	Consulting services on lighting system for Runways A, B, C and associated Taxiways	Eugene Groden	Oct. 2, 1946	Not completed	
951	Construction of an extension of Runway Parallel C	Savin Construction Co.	Jan. 22, 1947	Not completed	
954	Consulting services on sewerage and drainage systems	Hayden, Harding & Buchanan	Oct. 15, 1946	Not completed	
955	Installing underground service connections to American Airlines Hangar	Lewis & Scott	Jan. 22, 1947	Completed Mar. 29, 1947	5,958.52 4,834.41
956	Professional services negotiating permits and leases	Herbert A. Horgan	Dec. 3, 1946	Completed Jan. 15, 1947	1,500.00
957	Driving test piling at site of proposed Terminal Building	Raymond Concrete Pile Co.	Jan. 24, 1947	Completed March 11, 1947	4,500.00
958	Partial permanent construction of Taxiway 1, South Taxiway and portions of Runway Parallel A and Parallel C	B. Perini & Sons, Inc.	Jan. 27, 1947	Not completed	
964	Further additional professional services in connection with leases and permits with Airlines	Herbert A. Horgan	Jan. 16, 1947	Completed Feb. 11, 1947	1,000.00
965	Alterations and additions to Temporary Terminal Building	Rossano Construction Co.	March 18, 1947	Completed April 30, 1947	975.00
969	Constructing Runway Parallel C, a portion of Parallel A, a portion of Taxiway A, Taxiway 1, Taxiway B, Taxiway C and South Taxiway	B. Perini & Sons, Inc.	May 5, 1947	Not completed	
971	Further additional services re leases and permits with airlines	Herbert A. Horgan	March 25, 1947	Completed June 2, 1947	3,000.00
972	Making borings for drainage conduits	Raymond Concrete Pile Co.	April 23, 1947	Completed May 14, 1947	1,546.92

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with Section XI of Chapter 91 of the General Laws, there has been available during the year the sum of \$100,000, provided that all expenditures for the protection of shores shall be on the condition that at least fifty percent of the cost is covered by contributions from municipalities or other organizations and individuals. In the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.

An appropriation of \$50,000 was also made for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

An appropriation of \$150,000 was also made for the improvement, development, maintenance and protection of rivers and harbors, tide waters and foreshores within the Commonwealth, as authorized by Chapter 309 of the Acts of the current year, to be in addition to any amount heretofore appropriated for the purpose; provided, that payments from the money provided in this item for work authorized by project (6) of Chapter 686 of the Acts of 1945 shall be limited to work made necessary by the hurricane occurring in the calendar year 1944.

Under Chapter 686 of the Acts of 1945 the Department was authorized to carry out the improvement of harbors and waterways in the following towns: Duxbury Shores; Scituate Shore; Winthrop Shore; Yarmouth Shore; East Boston Shore; Barnstable Shore; Falmouth Shore; Lynn Harbor.

Under Chapter 734, the Department was authorized to contribute from available funds money to reimburse such owners of shore front property in the town or county of Barnstable up to but not more than fifty percent of the cost of such work as done, in process and contracted for, made necessary by flood and hurricane, said cost to be determined by the Department of Public Works.

Information as to work previously done in rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands, Department of Public Works and the Department of Public Works.

An account of work done between July 1, 1946 and June 30, 1947 for the improvement of rivers and harbors, tide waters and foreshores outside of Boston Harbor follows.

BAHNTABLE

On August 20, 1946, Contract 904 was awarded to John Gallo for the construction of five jetties along the shore of Squaw Island at Hyannisport.

This work was completed January 28, 1947 at a cost of \$9,212.86.

On October 15, 1946, Contract 916 was awarded to the North Atlantic Dredging Company to dredge the channel at the entrance to Lewis Bay in Hyannis Harbor.

This work was completed November 6, 1946 at a cost of \$31,450.50.

On September 25, 1946, Contract 931 was awarded to Turner and Breivogel, Inc. for the placing of stone riprap protection at seawall in South Hyannis.

This work was completed November 13, 1946 at a cost of \$2,978.53.

On December 10, 1946, Contract 949 was awarded to Turner and Breivogel, Inc. for constructing a stone jetty west of the town beach at Cotuit.

This work was completed March 24, 1947 at a cost of \$1, 289.00.

On March 26, 1947, Contract 968 was awarded to Frederick V. Lawrence to construct a stone jetty and place stone riprap on the Nianco Shore for protection of the embankment.

This work was completed June 3, 1947 at a cost of \$8,192.08.

On June 10, 1947, Contract 975 was awarded to the North Atlantic Dredging Company for dredging Cotuit and West Bay entrance channels.

This work had not been started at the close of the fiscal year.

The estimated cost of this work is \$34,340.00.

BEVERLY

On March 26, 1947, Contract 967 was awarded to Karl Frederickson for constructing three stone jetties along the Beverly Shore adjacent to Lothrop Street.

This work was completed June 2, 1947 at a cost of \$7,094.68.

BOARNE

On September 25, 1946, Contract 932 was awarded to Turner and Breivogel, Inc. for placing stone riprap protection at the Cape Cod Canal Pier.

This work was completed December 6, 1946 at a cost of \$2,681.86.

On June 24, 1947, Contract 977 was awarded to John Galle for making repairs to the fender system at the Cape Cod Canal Pier.

This work had not been started at the close of the fiscal year.

BREWSTER

On November 6, 1946, Contract 935 was awarded to Turner and Breivogel, Inc. for constructing two stone jetties at Saint's Landing.

This work was completed February 15, 1947 at a cost of \$6,370.28.

CHATHAM

On September 18, 1946, Contract 928 was awarded to Frederick V. Lawrence for constructing two jetties for embankment protection at Forest Beach.

This work was completed November 23, 1946 at a cost of \$4,499.97.

DENNIS

On June 21, 1946, Contract 884 was awarded to Frederick V. Lawrence for constructing two new jetties and rebuilding two existing jetties in the vicinity of Light House Inn on the south shore.

This work was completed August 7, 1946 at a cost of \$7,398.23.

DENNIS

On August 20, 1947, Contract 911 was awarded to Frederick V. Lawrence for excavating channel and placing riprap protection at Sesuit River.

This work was completed October 30, 1946, at a cost of \$9,700.68.

DUXBURY

On November 6, 1946, Contract 948 was awarded to Merry, Merry and Company for placing stone riprap on Duxbury Beach adjacent to the property of Louise G. MacPherson.

This work was completed December 19, 1946, at a cost of \$1,041.51.

On February 25, 1947, Contract 960 was awarded to Thomas Brothers for constructing seawalls on the Duxbury Shore between the Marshfield-Duxbury town line and the Hummock.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$64,020.00.

EDGARTOWN

On August 20, 1946, Contract 885 was awarded to Frederick V. Lawrence for constructing an earth dike and stone jetty at the Edgartown Light.

This work was completed February 1, 1947 at a cost of \$29,452.30.

FALL RIVER

December 2, 1946.

ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS RELATIVE TO THE IMPROVEMENT OF THE FACILITIES FOR MARITIME COMMERCE IN THE PORT OF FALL RIVER.

To His Excellency,
Governor of the Commonwealth of Massachusetts,
and The Honorable Senate and House of Representatives,
State House, Boston.

The department of public works hereby reports its action under chapter 665 of the Acts of 1945 which authorizes the improvement of the facilities for maritime commerce in the Port of Fall River.

This statute took effect on January 1, 1946 and ceases to be effective on January 1, 1948 unless prior thereto the department has entered into one or more contracts authorized by section four for the leasing of the facilities authorized under this act.

No such leases have been negotiated.

Inasmuch as this act will cease before the session of the general court in 1948, it is believed that the date of termination should be extended to July 1, 1948, so that any important question that may arise during the year 1947 which needs legislation may be brought to the attention of the 1948 general court before the act ceases to be operative.

The department held a conference with the city officials of Fall River and others at interest on August 6, 1945 as to the procedure under the act and later with the Attorney General. It was decided that preliminary plans should be prepared and the necessary borings taken. Inasmuch as the only funds available were in the general appropriation for the improvement of rivers and harbors, and as the terms of that appropriation require that any expenditures be matched by a contribution of equal amount, no contract could be approved until the contribution was available.

Further conferences were held with various interests in the City of Fall River and it was determined by all that the best location for the pier was on the property of the Old Colony Railroad under lease to the New York, New Haven and Hartford Railroad.

This property lies at the foot of Central Street and the portion needed for pier development is on the water side of Water Street. The assessed value is -

land	\$282,050
buildings	24,200
total	\$306,250 - on which the taxes are \$11,900.

The only use that the Railroad makes of this property is for receiving and handling truck-rail freight. There is no waterborne commerce.

The department held numerous conferences with the Railroad officials during the following months.

In March, 1946 the City of Fall River appropriated \$2,000 and the department allotted an equal amount, and a contract was signed with Chas. A. Leary Company and the necessary borings were taken, which showed that there was a good bottom to hold the piling and that no ledge would be encountered.

Other conferences were held with city and railroad officials and finally, in July, the Chairman of the Trustees of the New Haven Railroad stated that the railroad had no funds to develop the pier or to provide additional facilities to take the place of those now used. He was willing to sell the property for its assessed value (\$306,250) and would lease back the same facilities he now has and pay as rental the same amount the railroad now pays as taxes (\$11,900) plus 2% on the purchase price, or a total of about \$18,000, but he was not willing to lease the entire project. The area he needed would be about 350x40 (14,000 sq.ft.) with three tracks adjoining all on the north side, or the same facilities he now uses.

The preliminary plans of the department provide for a pier shed 600 by 160 (96,000 sq.ft.) adjacent to a berth 600 ft. long by 100 ft. wide and 30 ft. deep with the desirable track and roadway connections.

An analysis of the terms of the act indicates that the rental charge to amortize sixty per cent of the cost of the total facility to be provided is not more than \$50,000 per annum; deducting the amount to be paid under the lease to the railroad (\$18,000) would leave \$32,000 to be received for the lease or leases of the water terminal.

These plans, facts and figures were presented officials of the City of Fall River at our final conference in August, 1946. At this time the Port Authority of Fall River agreed to submit its criticism of the plans and determine what could be done towards furthering the project.

Total expenditures of the department to December 1, 1946 are \$4014.90., of which the City of Fall River contributed \$2000.

Joseph F. Cairnes
Commissioner

George G. Hyland
Associate Commissioner

Ralph A. Palladino
Associate Commissioner

FALMOUTH

On August 20, 1946, Contract No. 903 was awarded to John Galle for constructing four jetties on the shore in the Acapasket section of Falmouth, and rebuilding the jetties at the entrance to Great Pond.

This work was completed November 23, 1946 at a cost of \$26,426.50.

GLOUCESTER

On October 22, 1946, Contract No. 934 was awarded to Ralph Beaudoin for making repairs to the wall of the Antisquam Canal near the Blynnan Bridge.

This work was completed April 11, 1947 at a cost of \$10,062.97.

HANWICH

On September 18, 1946, Contract No. 926 was awarded to the American Hydraulic Dredging Company for dredging the entrance channel at Herring River.

This work was completed January 10, 1947 at a cost of \$5,605.08.

HARWICH

On March 18, 1947, Contract 963 was awarded to John Gallo for constructing a jetty on the shore westerly of Allens Harbor near Doble's Point.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$5,700.00.

HULL

On September 18, 1946, Contract 912 was awarded to Henry N. Worthington Company for making repairs to the seawall between Gun Rock and Green Hill.

This work was completed June 14, 1947 at a cost of \$21,676.74.

MANCHESTER

On February 19, 1947, Contract 961 was awarded to Larcourt, Inc., for placing stone riprap to protect the embankment along the shore of Singing Beach.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$12,760.00.

MARSHFIELD

On December 6, 1946, Contract 945 was awarded to John Kitson for constructing two jetties and placing riprap at Brant Rock.

This work was completed May 17, 1947 at a cost of \$34,726.15.

On February 19, 1947, Contract 962 was awarded to Fred J. Wallace Company, Inc. for constructing a new seawall and making repairs to the existing seawall between Green Harbor and the Marshfield-Duxbury town line.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$30,704.00.

NEW BEDFORD STATE PIER

Contract 871 awarded March 26, 1946 to Frederick W. Byron was in progress at the beginning of the fiscal year.

This work consists in general of the following items:

- (a) The removal of an existing canopy from the north side of the shed.
- (b) The removal of an existing elevator and its pent house.
- (c) The removal of miscellaneous fittings and materials from within the shed.
- (d) The refacing of the exterior walls of the shed, including the removal of existing stucco, doors and sash; cleaning existing structural steel work; installation of new steel members; painting steel; erection of asbestos cement siding, glass block, steel sash and concrete work; miscellaneous repairs.
- (e) The installation of new overhead doors.
- (f) The installation of a new canopy on the south side of the shed.
- (g) The installation of loading aprons on north side, second floor.
- (h) The installation of chutes from the second floor, interior.
- (i) The removal of steel door tracks at existing first floor doorways.
- (j) The renovation of existing first floor toilets, office and sprinkler valve rooms.
- (k) Roof repairs including new ventilators and conductors.
- (l) Plumbing alterations including removals and changes of sprinkler and miscellaneous piping.
- (m) Electrical work.

This work was completed February 19, 1947 at a cost of \$102,000.00.

Contract 869 was awarded August 20, 1946 to the Martin J. Kelly Company, Inc. for making alterations to the State Pier.

This work consists of repairs and alterations to the deck and the outer end of the pier, as follows:

- Removing existing tracks and concrete in track pit in the steel shed and refilling with gravel with new concrete surface at elevation now existing.
- Removing existing timber platform on north side of wooden shed and replacing

it with a new concrete platform.

At the outer end of the pier, removing existing concrete platform and excavating area to expose relieving platform. Rebuilding platform where required and driving steel piling bulkhead. Raising outer wall of the pier to elevation 14.0 and filling the area with gravel and a new concrete surface.

This work was completed November 27, 1946 at a cost of \$33,725.08.

Contract 941 was awarded December 6, 1946 to the Merritt Chapman and Scott Corporation for development of the State Pier.

The work to be done consists of the construction of a reinforced concrete platform fifty feet in width and six hundred and eighty five feet in length on a pile and timber foundation; the furnishing and placing of gravel fill to form a dike, and the dredging of a dock adjacent to the wharf platform to a depth of thirty feet.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$291,287.00.

Contract 940 was awarded May 21, 1947 to John Kitson for placing fill at the State Pier.

The work consists of furnishing and placing earth filling classed as ordinary borrow in the south dock and adjacent areas.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$45,700.00.

OAK BLUFFS

The work continued on the construction of a stone mound along the embankment easterly of the steamboat wharf under Contract 882 with Turner and Breivogel, Inc.

This work was completed September 21, 1946 at a cost of \$18,428.01.

The work continued on the construction of two jetties at the town beach bath house and on the two jetties adjacent to Atlantic Avenue, East Chop, under Contract 892 with Turner and Breivogel, Inc.

This work was completed September 21, 1946 at a cost of \$10,621.12.

On June 24, 1947, Contract 976 was awarded to the American Hydraulic Dredging Company for dredging the entrance channel to Lake Anthony.

This work had not been started at the close of the fiscal year.

The estimated cost of this work is \$5,495.00.

ORLEANS

On July 23, 1946, Contract 908 was awarded to Frederick V. Lawrence for placing riprap along the shore of Pleasant Bay, South Orleans.

This work was completed August 13, 1946 at a cost of \$3,142.48.

(3142.48)

On September 24, 1946, Contract 913 was awarded to the American Hydraulic Dredging Company for dredging at Rock Harbor.

This work was completed December 7, 1946 at a cost of \$22,069.20.

PLYMOUTH

On October 30, 1946, Contract 922 was awarded to the Bay State Dredging and Contracting Company for dredging at the Town Wharf. This contract was made between the Town of Plymouth and the Bay State Dredging and Contracting Company.

This work was completed December 13, 1946 at a cost of \$7,565.00.

On January 6, 1947, Contract 946 was awarded to Frederick V. Lawrence for rebuilding the concrete seawall and placing riprap near the town beach at Warrens Cove.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$24,090.00.

On December 6, 1946, Contract 947 was awarded to Malaguti Brothers for constructing four stone jetties for the protection of the embankment at Stage Point.

This work was completed January 15, 1947 at a cost of \$11,450.93.

PROVINCETOWN

On July 3, 1946, Contract 859 was awarded to the Bay State Dredging and Contracting Company for dredging in Provincetown Harbor at the Town Wharf.

This work was completed November 15, 1946 at a cost of \$19,600.00.

PROVINCE LANDS

On July 16, 1946, Contract 907 was awarded to B. Perini and Sons, Inc. for making repairs to the Race Run Dike.

This work was completed October 2, 1946 at a cost of \$34,795.00.

ROCKPORT

On July 3, 1946, Contract 891 was awarded to the Bay State Dredging and Contracting Company for dredging in Rockport Harbor.

This work was completed October 7, 1946 at a cost of \$29,003.00.

PROVINCE LANDS

By Chapter 470 of the Acts of 1893, the Board of Harbor and Land Commissioners was given general care and supervision of an area containing about 3810 acres, known as the Province Lands at Provincetown.

During the year the maintenance crew worked on the following projects:

Collected and planted various types of grass and shrubs on both the inside and outside slopes of the sand dike at Race Run for the prevention of erosion.

Constructed picket and brush sand catching barriers on Atlantic Ocean shore to rebuild breaks in coastal dune.

Constructed new combination fire stop and truck trail through wooded area and maintained and improved existing trails of the same type.

Worked over brushland giving it silvicultural treatment for conversion purposes and burning all browntail moth nests and pitch pine needle miners found as well as painting with creosote all gypsy moth egg clusters encountered.

Transplanted from our Province Lands nursery 200 4-to 5-foot assorted pine trees for landscape use around the Province Lands.

Constructed a root cellar for stratifying seeds collected on the "Lands" and treating root and soft wood cuttings with hormones.

Maintained historical sites in Eastham, Truro and Provincetown. Also kept beaches and roadsides on the "Lands" clean.

Patrolled the "Lands" for forest fires, etc.

Transported over the sand and placed approximately 120 tons of one man riprap stone on both inside and outside slopes of sand dike at Race Run to check erosion at flood gate.

SALZM

On October 22, 1946, Contract 936 was awarded to the Bay State Dredging and Contracting Company for dredging a channel and anchorage basin in Palmer's Cove.

This work was completed May 1, 1947 at a cost of \$48,660.52.

On April 2, 1947, Contract 970 was awarded to the Bay State Dredging and Contracting Company for dredging the channel and basin at Dion's Boat Yard.

This work was completed May 14, 1947 at a cost of \$7,499.98.

SANDWICH

On January 6, 1947, Contract 953 was awarded to Turner and Breivogel, Inc. for the construction of three stone jetties on Spring Hill Beach easterly of Sandwich Harbor.

This work was completed April 22, 1947 at a cost of \$7,387.04.

SCITUATE

On July 2, 1946, Contract 896 was started for making repairs to the seawall at the Glades by John Kitson.

This work was completed November 4, 1946 at a cost of \$10,435.80.

On August 13, 1946, Contract 905 was awarded to Bradford Weston, Inc. for constructing a riprap mound at Cedar Point.

This work was completed December 14, 1946 at a cost of \$55,386.22.

On September 13, 1946, Contract 929 was awarded to Vincent Cairn for making repairs to the seawall at Surfside Beach.

This work was not completed at the close of the fiscal year.

The estimated cost of this work is \$24,651.89.

TISHUERY

On September 18, 1946, Contract 887 was awarded to Frederick V. Lawrence for channel excavation and stone riprap protection at Lake Tashuoo entrance.

This work was completed April 12, 1947 at a cost of \$19,501.90

On September 10, 1946, Contract 917 was awarded to Turner and Breivogel, Inc. for constructing five jetties on the shore of Vineyard Haven Harbor westerly of Lagoon Pond entrance.

This work was completed October 21, 1946 at a cost of \$6,412.98.

WARRENHAM

On September 18, 1946, Contract 927 was awarded to Frederick V. Lawrence for constructing three stone jetties at Swifts Beach.

This work was completed December 7, 1946 at a cost of \$3,600.00.

WINDSOR

On February 11, 1947, Contract 959 was awarded to David H. Deans for excavating channel and constructing an earth fill dike with the excavated material. The location of the work was on the west branch of the Westfield River near the Gunnington line. The object of the work was to open a new channel and build a dike to divert the river away from Highway Route No. 9.

This work was completed April 3, 1947 at a cost of \$3,012.50.

MISCELLANEOUS

Great Ponds

Jurisdiction of great Ponds belonging to the Commonwealth was given to the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act pertains to ponds containing in their natural state more than ten acres of land. Authority to sell or convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was given later by Chapter 379 of the Acts of 1904, now section 2 of Chapter 91 of the General Laws.

During the year the Department has considered matters relating to the following ponds: Spy Pond, Arlington; Lovells Pond, Long Pond (Centerville) and Chequaquet Lake, Barnstable; Little Alum Pond, Brisfield; Searsons Pond and Vaughans Pond, Carver; Harts Pond, Chelmsford; Squibnocket Pond, Chilmark and Gay Head; White Pond, Concord; Long Pond, Dracut; Island Creek Pond, Duxbury; Farn Pond, Edgartown; Indian Head Pond, Hanson; Bare Hill Pond, Harvard; Winthrop Lake, Holliston; Chadwicks Pond, Haverhill; Asneconick Pond, Hubbardston; Spectacle Pond, Lancaster; Lake Whalom, Leominster; Lake Hipauch, Mendon; Hummock Pond, Nantucket; Lake Anthony, Oak Bluffs; Great Pond and Parish Pond, Otis; Little Sandy and Big Sandy Ponds, Peabroke; Silver Lake and Lake Pontcosic, Pittsfield; Great Island Pond, Plymouth; Snipatuit Pond, Rochester; Weeks Pond, Sandwich; Congamond Lake, Southwick; Stockbridge Bowl, Stockbridge; Big Alum Pond, Lead Mine Pond and Quacumquasit Pond, Sturbridge; Lake Tashmo, Tisbury; Lake Quarnapowitt, Wakefield; Sought For Pond, Westford; Tisbury Great Pond, West Tisbury and Chilmark; Whitmans Pond, Weymouth.

LICENSES AND PERMITS

During the period from July 1, 1946 to June 30, 1947, the Department has granted 89 licenses for work to be done in tide water, great ponds, Connecticut River and Merrimack River, and in rivers and streams under the provisions of section 6 of Chapter 513 of the Acts of 1939. The Department has also granted 116 permits for miscellaneous purposes and approved 37 permits issued by municipal authorities for the construction and maintenance of fish weirs in tide water.

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for the improvement of rivers and harbors in Massachusetts from the establishment of the Government to the close of the fiscal year ending June 30, 1947, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:

TABLE NO. 1 -- Localities at which work was done during the Fiscal Year ending June 30, 1947:

<u>LOCALITY</u>	<u>APPROPRIATIONS</u>	<u>EXPENDITURES</u>
Boston Harbor	\$18,609,747	\$18,593,388
Weymouth Fore River	1,045,125 (1)	1,042,734
Cape Cod Canal	40,465,629	40,406,442
Essex River	75,000 (2)	35,843
Town River	374,319 (3)	308,669
	<hr/>	<hr/>
TOTAL	\$60,569,820	\$60,387,076

(1) Exclusive of \$100,000 contributed funds

(2) Exclusive of \$5,000 contributed funds

(3) Exclusive of \$111,763 contributed funds

Locality	Appropriations	Expenditures
Nystic River	\$ 955,880	\$ 955,880
Harbor of Refuge at Nantucket	774,584	774,584
Edgartown Harbor	45,614 (1)	45,614
Vineyard Haven Harbor	82,573	82,573
Newburyport Harbor	755,330	755,330
Merrimack River	517,752	517,752
Ipswich River	5,618	5,618
Sandy Bay, Cape Ann	1,941,478	1,941,478
Rockport Harbor	91,229	91,229
Gloucester Harbor and Annisquam River	664,305	664,305
Manchester Harbor	23,986	23,986
Beverly Harbor	246,690 (2)	246,690
Salem Harbor	107,957	107,957
Marblehead Harbor	584	584
Winthrop Harbor	8,993	8,993
Malden River	149,950 (3)	149,950
Dorchester Bay and Neponset River	128,176	128,176
Buzzards Bay (Weepecket Rock)	2,500	2,500
Mingham Harbor	38,317	38,317
Cohasset Harbor	10,000	10,000
Scituate Harbor	313,818	313,818
Duxbury Harbor	37,000	37,000
Lingston Harbor	8,940	8,940
Norham Harbor	95,997	95,997
Wellfleet Harbor	11,350	11,350
Provincetown Harbor	389,582	389,582
Lyannis Harbor	224,450	224,450
Little Harbor, Woods Hole	18,000	18,000
Woods Hole Channel	350,260	350,260
Canapitsit Channel	9,113	9,113
Westport River	3,000	3,000
Cuttyhunk Harbor	45,614 (4)	45,614
Taunton River	475,911	475,911
Bass River	20,150	20,150
Powow River	50,941	50,941
Plymouth Harbor	512,882 (5)	512,882
Lynn Harbor	855,336	855,336
Weymouth Back River	75,741 (6)	75,741
Cross Rip Shoals, Nantucket Sound	65,555	65,555
Monomah Creek, Martha's Vineyard *	-	-
Chatham (Stage) Harbor	50,260	50,260
Pollock Rip Shoals, Nantucket Sound	1,614,242	1,614,242
Fall River Harbor	1,131,083	1,131,083
New Bedford and Fairhaven Harbor	2,320,221	2,320,221
TOTAL	\$15,430,862	\$15,430,862

- (1) Exclusive of \$10,000 contributed funds
 (2) Exclusive of \$100,000 contributed funds
 (3) Exclusive of \$62,000 contributed funds
 (4) Exclusive of \$11,643 contributed funds
 (5) Exclusive of \$106,400 contributed funds
 (6) Exclusive of \$20,000 contributed funds

* Authorized in River and Harbor Act approved March 2, 1945.
 No work or costs to date.

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
859	Dredging in Provincetown Harbor, Provincetown	Bay State Dredging and Contracting Company	July 3 1946	Completed November 15 1946	19,600.00
869	Alterations to the State Pier, New Bedford	Martin J. Kelly Co., Inc.	Aug 20 1946	Completed November 27 1946	33,725.08
871	Alterations to the shed, State Pier, New Bedford	Frederick W. Byron	Mar 26 1946	Completed February 19, 1947	102,000.00 ⁴
882	Seawall repairs, Oak Bluffs	Turner and Breivogel, Inc.	May 21 1946	Completed September 21 1946	18,428.01
884	Jetties in vicinity of Lighthouse Inn, Dennis	Frederick V. Lawrence	Jun 21 1946	Completed August 7 1946	7,398.23
885	Stone jetty in Edgartown Harbor	Frederick V. Lawrence	Aug 20 1946	Completed February 1 1947	29,452.30
887	Channel excavation and riprap protection at entrance to Lake Tashmoo, Tisbury	Frederick V. Lawrence	Sep 18 1946	Completed April 12 1947	19,201.90
891	Dredging in Rockport Harbor, Rockport	Bay State Dredging and Contracting Company	July 3 1946	Completed October 7 1946	29,003.00
892	Jetty protection, Oak Bluffs	Turner and Breivogel, Inc.	May 24 1946	Completed September 21 1946	10,621.12
896	Repairs to seawall at the Glades, Scituate	John Kiteon	Jun 18 1946	Completed November 4 1946	10,435.80
903	Shore protection in Falmouth	John Galle	Aug 20 1946	Completed November 23 1946	26,426.50
904	Shore protection at Squaw Island, Hyannisport, Barnstable	John Galle	Aug 20 1946	Completed January 28 1947	9,212.86

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
905	Shore protection at Cedar Point, Scituate	Bradford Weston, Inc.	Aug 13 1946	Completed December 14 1946	55,386.22
907	Construction of a dike at Province Lands, Provincetown	B. Ferini and Sons, Inc.	Jul 16 1946	Completed October 2 1946	34,795.00
908	Shore protection in Orleans	Frederick V Lawrence	Jul 23 1946	Completed August 13 1946	3,142.48
911	Channel excavation and riprap protection at Sesuit River, Dennis	Frederick V. Lawrence	Aug 20 1946	Completed October 30 1946	9,700.68
912	Repairs to seawall at Green Hill, Hull	Henry H. Worthington Co.	Sep 18 1946	Completed June 14 1947	21,676.74
913	Dredging in Rock Harbor, Orleans	American Hydraulic Dredging Co.	Sep 24 1946	Completed December 7 1946	22,069.20
916	Dredging in Hyannis Harbor, Barnstable	North Atlantic Dredging Co.	Oct 15 1946	Completed November 6 1946	31,450.50
917	Riprap and stone jetties in Vineyard Haven Harbor, Tisbury	Turner and Braivogel, Inc.	Sep 10 1946	Completed October 21 1946	6,412.98
919	Hydraulic engineering services, rivers and water courses in the towns of the State	Howard M. Turner	Jul 23 1946	---	---
922	Dredging at Town Wharf, Plymouth (Contract with the Town of Plymouth)	Bay State Dredging and Contracting Company	Oct 30 1946	Completed December 13 1946	7,565.00
926	Dredging Herring River entrance channel, Harwich	American Hydraulic Dredging Co.	Sep 18 1946	Completed January 10 1947	5,605.08
927	Shore protection, Swifts Beach, Wareham	Frederick V Lawrence	Sep 18 1946	Completed December 7 1946	3,600.00
928	Shore protection, Forest Beach, Chatham	Frederick V Lawrence	Sep 18 1946	Completed November 23 1946	4,499.97

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
929	Repairs to seawall at Surfside Beach, Scituate	Vincent Cairra	Sep 18 1946	Not completed	
931	Placing riprap at South Hyannis, Barnstable	Turner and Breivogel, Inc.	Sep 25 1946	Completed November 13 1946	2,978.53
932	Riprap protection, Cape Cod Canal Pier, Bourne	Turner and Breivogel, Inc.	Sep 25 1946	Completed December 6 1946	2,681.86
934	Wall repairs at Annisquam Canal, Gloucester	Ralph Beaudoin	Oct 22 1946	Completed April 11 1947	10,062.97
935	Shore protection, Brewster	Turner and Breivogel, Inc.	Nov 6 1946	Completed February 15 1947	6,370.28
936	Dredging in Palmer's Cove, Salem	Bay State Dredging and Contracting Company	Oct 22 1946	Completed May 1 1947	48,660.52
940	Fill at New Bedford State Pier, New Bedford	John Kitson	May 21 1947	Not completed	
941	State Pier development, New Bedford	Merritt-Chapman and Scott Corporation	Dec 6 1946	Not completed	
945	Construction of two jetties and placing of riprap at Brant Rock, Marshfield	John Kitson	Dec 6 1946	Completed May 17 1947	34,726.15
946	Shore protection at Warrens Cove, Plymouth	Frederick V Lawrence	Jan 6 1947	Not completed	
947	Shore protection at Stage Point, Plymouth	Malaguti Brothers	Dec 6 1946	Completed January 15 1947	11,450.93
948	Shore protection at Duxbury Beach, Duxbury	Merry, Merry and Company	Nov 6 1946	Completed December 19 1946	1,041.51
949	Shore protection on westerly shore of Cotuit Harbor, Barnstable	Turner and Breivogel, Inc.	Dec 10 1946	Completed March 24 1947	1,289.00+
953	Shore protection at Spring Hill Beach, Sandwich	Turner and Breivogel, Inc.	Jan 6 1947	Completed April 22 1947	7,587.04
959	Channel excavation, Westfield River West Branch, Windsor	David M. Deans	Feb 11 1947	Completed April 3, 1947	3,012.50

Contract No.	Work	Contractor	Date	Condition of work	Contract Cost
960	Construction of seawall in Duxbury	Thomas Brothers	Feb 25 1947	Not completed	
961	Shore protection at Singing Beach, Manchester	Larscourt, Inc.	Feb 19 1947	Not completed	
962	Construction of seawall and wall repairs, Marshfield	Fred J Wallace Co. Inc.	Feb 19 1947	Not completed	
963	Shore protection westerly of Allens Harbor, Harwich	John Gallo	Mar 18 1947	Not completed	
967	Stone jetties, Beverly Shore, adjacent to Lothrop Street, Beverly	Karl Fredrickson	Mar 26 1947	Completed June 2 1947	7,094.68
968	Shore protection, Wianno Beach, Barnstable	Frederick V Lawrence	Mar 26 1947	Completed June 3 1947	8,192.08
970	Dredging at Bion's Boat Yard, Salem	Bay State Dredging and Contracting Company	Apr 2 1947	Completed May 14 1947	7,499.88
975	Dredging West Bay and Cotuit Harbor, Barnstable	North Atlantic Dredging Co.	Jun 10 1947	Not completed	
976	Dredging in Lake Anthony, Oak Bluffs	American Hydraulic Dredging Company	Jun 24 1947	Not completed	
977	Repairs to fender system, Cape Cod Canal Pier, Bourne	John Gallo	Jun 24 1947	Not completed	

DEPARTMENT OF PUBLIC WORKS-DIVISION OF WATERWAYS

Receipts

DEPARTMENT INCOME
(Ordinary Revenue)

	for 12 months ending <u>June 30, 1947</u>	
Certified Copying Charges	110.00	
Cape Cod Canal Pier	-----	
New Bedford Pier	12,268.49	
Gloucester Fish Pier	25,000.00	
Plymouth Property	25.00	
Province Lands	546.50	
License Charges, Outside Boston Harbor	1,663.75	
Miscellaneous Receipts	212.50	
Sale of Miscellaneous Plans	1,098.75	
Pay Station Receipts	<u>7.11</u>	40,932.10

LOGAN AIRPORT

(Section 6, Chapter 383 - 1945)

(as amended by Section 6, Chapter 676 - Acts of 1945)

Collections made and entered on the records of the Division of Waterways for the period July 1, 1946--December 31, 1946 were transferred to Highways accounting records effective January 1, 1947. The entire fiscal year records are reported on Highways financial statements.

IMPROVEMENT OF RIVERS
AND HARBORS TRUST FUND
(Chapter 91, General Laws)

Contributions from Towns, Individuals or Others	362,550.00
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SUMMARY OF EXPENDITURES BY DIVISION OF WATERWAYS

for
12 months ending
June 30, 1947

General Expenses

61,678.68

OUTSIDE BOSTON HARBOR

Cape Cod Canal Pier
Gloucester Fish Pier Additions
Improvement of Rivers and Harbors
New Bedford State Pier
New Bedford Port Facilities
New Bedford Port Facilities Add'l Development
Perambulating State Boundary Lines
Plymouth Property
Province Lands
Repairing Damages
Stream Clearance(Ch.419 - 1941)
Surveying Town Boundaries

2,411.47
260.44
551,297.25
16,037.71
132,685.87
46,389.30

3,667.64
9,361.69
41,339.83
3,468.94
40.69

896,960.83

AIRPORTS

Airport Loan, Acquisition and Development (8307)
Airport Loan, Enlargement (8309)
Third Airport Loan (8310)
Fourth Airport Loan (8311)

80,300.00
36,873.14
4,022,728.08
1,678,783.46 5,818,684.68

6,687,324.19

RECORDED

SUMMARY OF EXPENDITURES/BY DIVISION OF WATERWAYS

for
12 months ending
June 30, 1947

Commissioners, Associate Commissioners,
Personal Services of clerks, stenog-
raphers, and Commissioners' travel

46,256.03

Public Works Building, Telephone Services

25,246.75

71,502.78

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COMMISSION ON ADMINISTRATION
AND FINANCE

BY

6. The reconstruction of 4.1 miles of the G.A.R. Highway on Route 6 in Wellfleet at a total contract cost of \$596,417.75
7. The completion of the grading and the construction of the reinforced cement concrete surfacing on the 2.1 miles of Worcester to Providence road in Sutton, at a total contract cost of \$316,424.00, work on this project having been suspended in 1942 on account of the critical shortage of labor and materials due to the last world war.
8. The reconstruction of 4.4 miles of state highway and bridge construction on Southbridge Road in Charlton and Southbridge, at a total contract cost of \$583,618.75.
9. The relocation of the Ayer-Shirley road for about 1.8 miles, including the construction of a new steel stringer bridge over the Nashua River, in the towns of Ayer, Harvard and Shirley, this work being done under two contracts at a total contract cost of \$419,298.40.
10. The surfacing of 3.6 miles of the previously graded Shawme Road in Bourne and Sandwich at a total contract cost of \$276,925.50.
11. The reconstruction of 2.1 miles of Washington Street in Braintree, including the construction of a bridge over the New York, New Haven & Hartford Railroad, this work being done under two contracts at a total contract cost of \$465,709.30.